

COMPOST COMMUNICATOR™

The quarterly newsletter of the United States Composting Council -Spring 2003 Edition



Presidents Greeting

Kevin Tritz

Viva Las Vegas! We really hit the jackpot in January at the 11th Annual U.S. Composting Council Conference! Even those of us who “donated” at the gaming tables were still able to profit from Stu Buckner’s presentation on the Council’s activities in 2002 and on the upcoming opportunities of 2003. This year’s conference was well attended with over 300 people participating in the various presentations and functions.

I was very pleased with the progress that the Council and our industry have made in the past year. Our membership has increased, our services to our membership has been expanded, and most importantly, the level of communication from the Council to our members has increased.

Communication to our members will remain a main focus of the Council as we move for-

ward in 2003. We will continue to develop and communicate programs to enhance the value of our membership services. We will work to provide additional tools to our members in an effort to increase the awareness of mainstream consumers regarding our industry and our products. It will be the goal of the Council this year to continue to expand our industry’s visibility and credibility.

Most of us heard the numerous opportunities and programs highlighted in Stu Buckner’s presentation. To make sure all of our members are aware of any new developments in our industry, the Council will be updating and expanding the U.S. Composting Council web site. Presentations and support materials

on the STA program will be provided to our members, to support the ongoing efforts to incorporate the program into upcoming composting bids and RFP’s. The Council will distribute “Best Practices” updates to our membership through the use of e-mail and the web site, to share the many success stories in the rapidly growing field of composting

I look forward to 2003 . It will be an exciting year with many changes, many innovations and many opportunities for our industry. It is my commitment that if one of our members misses an opportunity or a new development in composting, it is a sure bet that it won’t be the result of a lack of communication.

Feelin’ Lucky.....Again?

*12th Annual USCC Conference
and Trade Show Conference*

Return to Las Vegas in January 2004!

Mark your calendar NOW

Inside

| | | | |
|---|---|--------------------------------------|----|
| Executive Director’s Message | 1 | Member Profile | 5 |
| Membership Benefits and Services | 2 | What’s new with the Compostable Logo | 6 |
| Programs and Initiatives | 3 | USCC/STA Member Sponsors Scholarship | 7 |
| USCC Officers, Board and Executive Director | 5 | Compost Tea – An Industry Overview | 7 |
| International Compost Awareness Week | 5 | We’ve Moved!!! | 10 |

Executive Director's Message

Stu Buckner

The Year in Review

-The Year Ahead

2002 was another year of transition as well as growth for the USCC. Transition involved changing offices and staff. Growth was in membership, membership services, and the programs and initiatives of the organization. Here's a brief review of 2002 and a peek at what's already happening in 2003.

2002 Annual Conference - Composting event of the year! The USCC's 11th Annual Conference was a tremendous success! Hosted by 20 sponsors, 40 exhibitors at the trade show, and more than 300 participants, we have received exceptional positive feedback about the conference from all those who attended. Here is a sampling of correspondence from conference attendees:

*Hi Stu,
I must say the Las Vegas scene was a bit intimidating at first, but the conference was the best I have been to. Very well organized. I made lots of connections and met people I have only conversed with by phone and E-mail. I look forward to Las Vegas for the next conference. Can't see how it could be any better.
Great job!*

*Frank Shields,
Soil Control Lab*

*Stu,
Last year I attended my first Composting Council conference, and found the sessions to be highly informative with regard to technology, innovation and regulation that would be influencing my municipal work in the immediate future. I found that the conference was a valuable opportunity for municipal staff to meet with compost producers and marketers, in order to explore beneficial relationships between all players. As a municipal staff member, I was thrilled to come away from the Composting Council conference with so many new ideas, and the contacts to help me implement them.*

*Michele Young,
Environmental Services Specialist,
City of San Jose*

*Good afternoon Stu,
I wanted to thank everyone that helped in setting up the Compost Council Show in Las Vegas as it was well structured with programs which covered many important issues in the compost world. As a representative for CBI at the show we had a great response and are still having potential customers contacting us. I was glad that we could be a part of this and look forward to the next one.*

*Thank you,
Tim K Griffing,
Systems Engineer, CBI*

We hope that everyone plans to join us next January in Las Vegas! Thanks again to our sponsors for their generous contributions and support. Some of this past conference's highlights included:

- Scott Summy, Baron and Budd, gave an informative discussion and update on the status of the class action lawsuit on Clopyralid, brought against Dow AgroSciences, on behalf of composters and industry. The USCC position statement on this issue can be found at www.composting-council.org.
- Jeff Gage coordinated a "standing room only" forum with a panel of experts, Dave Bezdicek, Dan Caldwell, R. Arthur Biggert and Robert Rynk to discuss the issues associated with clopyralid in agricultural feedstocks.
- Peter Anderson, RecycleWorlds Consulting, gave an enlightening presentation on the problems and concerns for the composting industry about Bioreactor Landfills. The USCC Legislative and Environmental Affairs Committee is developing a position paper on this issue. Peter is providing additional insights to the Committee.
- Linda Mesaros, Department of Energy, spoke about the federal government's Buy Bio Program at the Awards Luncheon, sponsored by New Milford Farms. The Council is participating as a member of the Private Sector Partners Liaison Group to

help Buy Bio and the composting industry identify opportunities and strategies for procurement and identify products available for purchase.

- The certification exam for a Manager of Compost Programs was well attended as were the tours of the Las Vegas Springs Preserve and the unique waste treatment facilities at the Ethel M Chocolate Factory.

As a result of the high quality of presenters and the importance of their topics, the meeting rooms remained full until all sessions had been completed—even with the lure of the dice. Thanks to the more than 60 presenters for sharing their experience and expertise.

A conference committee consisting of USCC Board members, exhibitors and conference attendees met immediately after the conference and voted to schedule the next USCC Annual Conference in mid to late January 2004 in Las Vegas. Next year's conference will feature additional interactive sessions and training opportunities. This annual event will be expanded even further with participation from various national and international organizations. Additional space will also be reserved for vendors to exhibit products and services. If you would like to arrange a session or request a session topic, please contact Stu Buckner by phone or mail at the USCC office or by e-mail at:

buckstop@vdot.net

We may consider other venues, but please mark your calendar now with the date of the U.S. Composting Council's 12th Annual Conference in January 2004.

Membership Benefits and Services

Membership services have been expanded and this will continue in 2003 as a result of our successful membership campaign and other funding successes in 2002.

Membership Drive

The USCC is a membership-based organization. Greater membership broadens our intellectual base, strengthens our position as a national organization, and increases revenues. Membership revenue is the primary source of funding for programs, association activities, and membership services. A greater membership base improves the association's ability to provide the level of services consistent with the needs of a national organization. 94 new members joined the USCC in 2002. 24 more have already joined this year, and the membership drive will aggressively continue throughout the remainder of the year. All USCC members are again requested to recruit just 1 new member in 2003, to help our membership drive maintain the momentum that is under way! That will place the USCC on a path of exponential growth for the next few years as a result of the team effort of USCC members and staff.

Newsletter

The newsletter has been resurrected and improved resources and partnerships should permit us to maintain a consistent publication schedule of the COMPOST COMMUNICATOR. Features to be added to the newsletter include a profes-

sional services directory and advertising space for suppliers who want to reach key compost industry prospects.

Membership Directory

The membership directory has been completed and all members should have received one.

The hard copy version will be updated annually. The directory will also be placed on the website (in the member's only area) and updated throughout the year. Please check your listing and let us know if the information is current.

Website

The Council's website has been completely revised. A "members only" area has been added which permits access to the Membership Directory and other features. Area storefronts are now available for members to advertise their products and services. Other features include membership directory updates, a training calendar, commonly requested information for download, and a USCC publications list. For additional information on Storefronts, please contact Ginny Black at USCC-ginny@worldnet.att.net or admin@compostingcouncil.org

RFP Notification Service

A new RFP notification service is now available for members. RFP's, bids for products and/or services, and grant announcements are posted on the website in the member's only area and members are also be notified electronically. To have information posted, just notify the USCC office. If you have not been receiving these notifications, please contact the USCC office and update your e-mail address.

Welcome New Members

Michael Bryan-Brown, **Green Mountain Technologies**, Whittingham, VT

Debbie Linder, **Ag-Bag Environmental**, Warrenton, OR

Evan Edgar, **California Compost Coalition**, Sacramento, CA

Dave Williams, **Biogroup USA, Inc.**, Ponte Vedra Beach, FL

Bob Fly, **Geosource Inc.**, Bulverde, TX

Enrique Ruiz, **Estructuras Ambientales, Inc.**, San Juan, Puerto Rico

Steve Diddy, **Engineered Compost Systems**, Seattle, WA

David Bezdicek, **Washington State University**, Pullman WA

Art Krenzel, **Phoenix Technologies**, Battle Ground, WA

Ken Warner, **Frontier Industrial Corp.**, Hubbard, OR

Jim Duke, **Cacaloco Compost**, Carbondale, CO

S.W. Campbell, **Town of Jonesborough**, Jonesborough, TN

Thomas Herlihy, **Joyce Engineering, Inc.**, Greensboro, NC

Charles Laffey, **Town of Needham**, Needham, MA

Martin Okoli, **UTV Germany**, Baden, Germany

Brian Gitt, **Biosystem Solutions, Inc.**, Fairfax, CA

George Garland, **UNA-NCA**, Washington, DC

Doug Sites, **Terex Recycling**, Durand, MI

Jeff Meberg, **Nursery Products**, San Clemente, CA

Dan Noble, **Association of Compost Producers**, Escondido, CA

Rodney Rockett, **Knox County Solid Waste**, Knoxville TN

Andrew Jantzer, **Buchart-Horn**, State College, PA

Jorn Johansen, **Polargruppen**, Askim, Norway

Jack Morgan, **Tensas Co-op Inc.**, Newellton, LA

Programs and Initiatives

TMECC

The Test Methods for the Examination of Composting and Compost (TMECC) were published on CD and are available from the USCC. The manual identifies the most appropriate techniques for use on compost, and creates uniformity in testing procedures throughout the industry.

STA Program

March 2003 has been a record month for new members. This is exciting news for all members, since increased membership revenues go right back into national STA compost promotion activities. We have added 4 new STA members to the program over the past month or so. They are: Garden-Ville (Texas) has added Alamo-Gro biosolids compost from their Leon Creek Facility, Metro Waste Authority is a yard trimmings

composter from Iowa, New Earth is also a biosolids composter based in Texas and Oakleaf Enterprises is a yard trimmings composter from Oregon. Four other new members joined previously in 2003. They are the City of Denton, Living Earth Technologies, Creech Services and O'Neals Compost. We welcome them and their products to the growing number of STA members!

MOEA Grant

The USCC and NRG Processing Solutions were awarded a two year grant from the Minnesota Office of Environmental Assistance. Funding is being provided for partnering with the state of Minnesota and working with Minnesota Composters to promote the use of compost by promoting and expanding the USCC's STA Program. Program developments and promotional activities will be applicable nationwide.

AAPFCO

The Association of American Plant Control Officials is responsible for the distribution and labeling of commercial fertilizers and a variety of soil amendments. AAPFCO had been developing a Uniform Compost Bill since 1999, and recently has decided instead, to consider revising the Uniform Soil Amendment Bill. The Council has been involved in this process since its inception to insure appropriate representation on behalf of the composting industry in general, and among other items, to allow compost to make soil

amendment claims and report nutrient content without falling under the fertilizer law. The USCC submitted comments and maintained representation at the August and February AAPFCO meetings. The USCC will continue to represent the industry on developments with AAPFCO.

Compost Operator Training

Last year, the USCC partnered with SWANA to develop a national certification program for composting professionals. The Certification exam for a Manager of Compost Programs, has been offered at several conferences and training programs. The existing Council training program and course materials are being updated. Additional training options are being developed to accommodate various levels of expertise. The Council will license the use of the training program to approved trainers and organizations and will also provide training assistance.

Clopyralid

The USCC released a position statement on problems with this herbicide product in October, 2001. If anyone is not familiar with this issue, the position statement can be found on the USCC's website. Council efforts to work out a solution to this problem with Dow were unsuccessful. On November 14, 2002, two composters, Pioneer Southern, Inc., located in Illinois, and Cedar Grove Composting, Inc., located in Washington State, filed a class action against Dow on behalf of composters and industry. The lawsuit alleges that Clopyralid jeopardizes the

2002 USCC Awards

It has been the history of the US Composting Council to bestow annual awards upon those members who have demonstrated superior service, in their respective field, to the composting industry. These awards were presented at the awards luncheon, sponsored by New Milford Farms. Recipients of the awards include:

Rufus Chaney Award for Research Excellence

Dr. Peter J. Stoffella, University of Florida - For Outstanding Contributions Furthering the Science of Composting

Composter of the Year Award

Wayne King, EARTH Products LLC

Hi Kellogg Award

Ron Alexander, R. Alexander Associates, Inc. - For Outstanding Service to the Composting Industry

H. Clark Gregory Award

Patrick McNelly, Orange County Sanitation District & Dr. Bill Roley, Permaculture Institute of Southern California For Outstanding Grassroots Efforts to Promote Composting

entire composting industry. Additional information can be found in the winter 2002 edition of the Compost Communicator.

Buy Bio Initiative

Buy Bio is a federal program for procurement and use of biobased products. The USCC is participating as a member of the Private Sector Partners Liaison Group. The Council's involvement is intended to help Buy Bio identify opportunities and strategies for procurement, identify products available for purchase, develop standards for biobased products, and educate the industry about marketing opportunities and Federal procurement procedures. The USCC will continue to develop marketing opportunities for composters and biodegradable manufacturers.

State Affiliate/Chapter System Establishment

During the past year, the Council was approached by a number of state and regional composting associations with an interest in becoming chapters or affiliates. The State Affiliations Committee has reviewed existing arrangements or models from other national organizations. Proposals have been developed to accommodate different levels of service required by various organizations. The Committee will continue to work with states to develop a model agreement and recruit participation.

Affiliations and Outreach: National

During the past year, the USCC has done a great deal of outreach with both national and international organizations. In addition to partnering with SWANA to jointly develop a certification exam for a Manager of Compost Programs, the Council also developed USCC sponsored conference sessions at WASTECON and other SWANA conferences. At the request of SWANA, USCC Board members Eliot Epstein, Jeff Gage and Matt Cotton are developing Council sponsored composting sessions for this year's WASTECON. These sessions will include the following topics:

- Compost Technologies Choices and Case histories
- Operational Issues of Composting
- Product market Development and Regulatory Aspects of Composting

We have also been in discussions with NRC about setting up a joint conference. Recently, the Council entered into a reciprocal membership agreement with the American Association of Meat Processors (AAMP), which represents an enormous feedstock source for composters. The American Nursery and Landscape Association (ANLA) has also become a member. This group represents an important end user and/or specifier group for compost and, potentially, STA certified products. A number of media organizations and

trade journals also became members last year, including Composting News, MSW Management and Waste Handling and Equipment News, in addition to our colleagues at BioCycle who have been Council members for many years. We will continue to forge new relationships and recruit new members.

Affiliations and Outreach: International

Japan

In the area of international affairs, the Council served as an advisor to the Japan Organic Recycling Association on development of the Asia Network of Organics Recycling (ANOR). Executive Director Stu Buckner was also asked to make an invited presentation on The Status of Composting and Organics Recycling in the US at the International Symposium on Organics Recycling (ISOR).

Orbit

The USCC also entered into a cooperative agreement with ORBIT (Organic Recovery and Biological Treatment), to, among other things, promote the exchange technical and scientific information and foster the harmonization of commercial aspects of organic resource utilization.

China

The USCC agreed to assist in the development of the China-US Agro-Environmental Center of Excellence (CUACE), as a result of a request by the USDA. This will involve participation in a

variety of research and demonstration projects in China such as organizing training programs, developing compost education programs, and acting as a liaison to identify technical expertise and equipment companies to support specific projects. The USCC will continue to pursue these opportunities.

Vietnam

The Council was awarded a grant from the National Association of State Development Agencies (NASDA) Environmental Technology Grant Fund to assist in the development of composting infrastructure in Vietnam. Composting technologies were reviewed and Council programs and educational materials were presented by Board member Jim McNelly, in a series of seminars and meetings with government officials, scientists and researchers.

Taiwan

This past December, Stu Buckner was invited, on behalf of the USCC, to discuss the Status of Composting and Certification Programs for Compost and Biodegradable Plastics in the US with government agencies and officials in Taiwan and to make a presentation on this topic at the International Conference on Sustainable Development and Biodegradable Materials. Working closely with the BPI and USCC, the Environmentally Degradable Polymer Association (EDPA) in Taiwan, has developed a compostable logo program and standards similar to

USCC/BPI program.

It should be noted that all international outreach and technology transfer activities of the USCC have been funded by grants or by the respective international organizations.

USCC Officers, Board and Executive Director

The 2003 Board elections resulted in some new, and some familiar faces joining the USCC Board of Directors. Composter candidates elected to the Board include: Sharon Barnes, Barnes Nursery; Scott Subler, Pacific Garden Co. and Wayne E. King, Sr., EARTH Products. Affiliate candidates elected include: Bob Rynk, BioCycle, Matt Cotton, IWMC, and Jeff Gage, Compost Design Services. They join existing Board members: Walter Carey, New Milford Farms; Eliot Epstein, Tetra Tech; Jack Hoeck, Rexius Forest By-Products; Carl Kipp, Paygro, a Division of Garick; Jim McNelly, Renewable Carbon Management; and Scott Plett, Davenport Compost Facility.

International Compost Awareness Week

April 27th-May 3rd 2003

The United States Composting Council encourages all communities to join with us in celebrating International Compost Awareness Week (ICAW) across the United States, Canada and the UK. Composting advocates will be encouraging everyone to Compost! This year's national poster theme, "How does your garden grow—Compost!" is a great way to get the message out. All types of composting, from "do it yourself" composting in your backyard to large-scale community-wide composting, are promoted during this week.

ICAW is a multi-media public and education initiative to showcase compost production and demonstrate compost use. Introduced in 1995, Compost Awareness Week continues to grow in both strength and numbers through its sponsors and compost advocates. Compost Awareness Week serves the important role of bringing the Compost message to the attention of the public, businesses and other groups. Communities and government agencies, as well as members of the composting industry, utilize the week to promote their

The U.S. Composting Council would like to thank the following companies for their generous support of the week each year that celebrates and promotes our industry and products:

Barnes Nursery, Inc
 Biodegradable Products Institute
 Cargill Dow, LLC
 Composting News
 Electronic Separations PLUS
 Erth Products
 FILTREXX International
 Grind-All, LLC
 Komptech-Farwick of North America
 MSW Management magazine
 Plastics Solutions
 Simply Biodegradable, LLC
 U.S. Environmental Protection Agency

specific Compost messages and programs.

The United States Composting Council has developed a list of Compost Awareness Week activities, proclamations, press releases for states, counties and cities,

and public service announcements for the event. Additional information on sponsorships, ICAW information sheets is available on the USCC website: www.compostingcouncil.org.

| | |
|---------------------------|---|
| President | Kevin Tritz, Specialized Environmental Technologies, Inc. |
| Vice President | David Hill, US Filter/ Baltimore City Composting Facility |
| Secretary | Matt Cotton, Integrated Waste Management Consulting |
| Treasurer | Ginny Black, Minnesota Office of Environmental Assistance |
| Executive Director | Stuart Buckner |

Member Profile

The Compost Communicator will feature a profile of a member company with each issue. Here's our profile of USCC member company Cortec.

As a fledgling company working out of a garage in St. Paul, Minnesota, Cortec had a vision of offering environmentally sound and sustainable alternatives to traditionally toxic corrosion inhibitors. Twenty five years later, Cortec operates the largest VCI chemical facility in the world and has the most

diverse product line in the industry. The success and growth of Cortec is proof that "green business is good business."

The core technology that Cortec utilizes throughout its product lines is a non-toxic Vapor phase Corrosion Inhibitor (VpCI™) that protects multiple metals (ferrous and non-ferrous) from corrosion and rust. What makes Cortec's technology different is the non-toxic nature and performance of this chemistry. The corrosion inhibitor does

not need to be in direct contact with the metal in order to protect—it instead works in the vapor and contact phase (above, below and at the water or oil line.) For example, applying oil after manufacture previously protected a brake rotor. The part was then packaged and shipped to the automotive assembly plant where it was cleaned and installed. Cortec's alternative is to simply place the rotor in an VpCI-impregnated plastic bag without oil or other rust preventative step. This saved the automotive industry

millions of dollars due to disposal, cleanup and labor and is now common practice among the largest automotive companies in the world.

While developing these innovative corrosion-inhibiting products, Cortec has retained its original focus on the environment and performance. This focus has led to product diversification including soy-based fluids and biodegradable plastic materials most recently. In order to gain access to new markets for these technologies, Cortec has been



The farm located in Hugo, Minnesota where Cortec was born.



Cortec Corporation World Headquarters.



What's new with the Compostable Logo? More New Products!

Steve Mojo

Since last year, interest in this program has grown dramatically. Currently, there are 5 "approved" companies with 13 products. All of these products will disintegrate and biodegrade quickly, without leaving plastic fragments in the soil for years. Before any product is awarded the compostable symbol, it must be demonstrated in tests conducted by third party laboratories that the product meets ASTM D6400-99 "Specification for Compostable Plastics". To meet the specifications found in D6400-99 and be considered biodegradable and compostable, products made from plastic must meet specific requirements for mineraliza-

tion, disintegration, and safety, i.e., not negatively impact plant growth or the environment. In addition, the BPI hires independent laboratories to review and verify the test results. No longer do composters and end users need to rely on manufacturers' claims.

Currently five manufacturers have received certification for 13 products, including bags, agricultural mulch and other films, food service items, coatings and fibers. And more companies and products are in the pipeline. By the end of 2003, the BPI anticipates that there will be 8-10 participating companies with 20 products in total. For more information on the Compostable Logo program visit

www.BPIWorld.org

involved in numerous organizations including the Biobased Manufacturers Association (BMA), many university outreach programs and the US Composting Council. Specifically relating to the USCC is the full range of biodegradable packaging products including compost bin liners, industrial/agricultural films and stretch film replacement.

These products are available with and without corrosion-inhibiting properties. Since its humble beginning 25 years ago, Cortec has grown to become the worldwide leader in its industry. Cortec's commitment to quality, performance and to the environment resulted in Cortec becoming one of the first chemical plants in the nation to receive both ISO 14001 and 9001-2000 Certification, over 20 patents and many domestic and international awards. Cortec retains its focus and commitment and is excited to be an active member in the USCC and the composting industry in general.

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Phone (800) 4-CORTEC
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www.cortecvci.com**

USCC Member

Sponsors Scholarship

Garick Established "The Carl Kipp, Jr. Paygro/Garick Endowed Scholarship Fund" at The Ohio State University on January 21, 2003, in the Department of Food, Agricultural and Biological

Engineering at The Ohio State University to honor Carl Kipp, Jr., 1953, BS, Agricultural Engineering of South Charleston, Ohio. This will be provided to junior and senior year students who are enrolled in the Department of Food, Agricultural, and Biological Engineering, with priority based on a concentration of study in Bioenvironmental, Soil and Water, Ecological, or Biological Engineering. Mr. Kipp, founder and former President of Paygro, now Technical Director of Grower Sales, Compost, and Recycling Products & Services at Paygro, a division of Garick, currently holds three patents on composting processes and equipment. He currently sits on the board of directors for the U.S. Composting Council. Additionally, Carl has served as a consultant to the US-EPA and to The Ohio State University in the development of national guidelines for pathogen destruction during the composting process.

Paygro, located in South Charleston, Ohio, is a pioneer in the bark and soil industries. It has evolved into becoming a major supplier to the horticultural, lawn, and garden industries with a diverse line of over 50 products. In addition, the Paygro System™, an innovative world-class composting system, is a patented process that provides its customers with composted pine bark, hardwood bark, and potting and planting soils available. Garick, headquartered in Cleveland, Ohio, is one of the leading distributors of natural resource products in the United States and



Canada, servicing the landscape, recreation, lawn, garden, and construction industries.

Compost Tea

An Industry Overview

*Cindy Salter, Exec. Dir.,
Compost Tea Industry
Association*

An estimated 3,000 aerated compost tea systems—either homemade or commercially manufactured—are in use across the United States. Homeowners use compost tea to enliven their flowerbeds and vegetable gardens. Organic and conventional farmers use compost tea to stimulate soil biological processes and improve the overall health and vigor of their apples, pears, grapes, strawberries, almonds, ginger, pineapple, potatoes, flowers, turf, and ornamentals and the list continues to grow.

Golf course managers have seen benefits that include cost savings as a result of using compost tea. Managers of the Presidio Golf Course in San Francisco observed positive results with a field trial conducted in 2001 to evaluate the effects of compost tea applications. Greens were sprayed weekly (during times of high

disease pressure) or bi-weekly (during times of moderate or low disease pressure) at a rate of one gallon of compost

tea per 1,000 square feet over a 12-month period. Turf treated with compost tea had longer root length and less Microdochium patch (pink snow mold) than untreated turf. As a consequence of these preliminary positive results, compost tea has become an integral part of the Presidio Golf Course pest management and turf maintenance program.

At Cascade Cuts, a commercial greenhouse operation in Bellingham, Washington, compost tea has shown promise in controlling pathogenic fungi on a wide range of bulb and other crops. "Not only does the compost tea provide disease protection, saving us many dollars in expensive fungicides on ornamental crops, it allows our herb division to grow crops as never before. Herb crops that formerly we could not grow well by conventional methods are now practical by our sustainable methods..." says Alison Kutz-Troutman of Cascade Cuts.

What is Compost Tea?

In its Glossary of Composting and Compost, the USCC defines compost tea as "Water in which finished compost has been

steeped to concoct a liquid fertilizer for plants." A common definition of compost tea is "an aqueous extract of compost".

There are numerous terms that are used interchangeably within the industry and in the marketplace, creating some confusion. The term "compost extract" was in use long before "compost tea", which has come into widespread use only in the last 5-10 years. Historically speaking, "compost extract" encompasses a broader range of starting materials and extraction methods than compost tea. For example, some of the earliest research in this field involved materials ranging from fresh manure, to partially decomposed feedstocks of various origins, to well-aged composts. Extraction methods usually involved passive steeping of these materials in water, in a variety of vessels, over a period of days to weeks. The contemporary compost tea industry, on the other hand, almost exclusively uses finished compost or vermicompost as starting materials, and has largely come to view oxygenation and supplemental nutrients as critical production parameters.

There is work to be done in this industry to clarify terminology. For a comprehensive discussion of the terminology issue, see "Compost Tea: Principles and Prospects for

Plant Disease Control" by Steve Scheuerell, Ph.D., in *Compost Science & Utilization*, Autumn 2002.

The active components in compost tea include water-soluble fulvic acids (building blocks for humic acids), as well as numerous other compounds that stimulate the production of plant growth hormones and improve the availability of micronutrients. A good population of beneficial microbes, the soluble nutrients in compost tea, and the humic materials themselves can all increase the production of plant biomass.

A deficiency of soil biological activity or a critical imbalance in microbial diversity is a precursor to other deficiencies leading to plant disease or malnutrition. Growers that use compost tea have reported positive effects in plant vigor, fruit color, root volume and disease resistance. These effects have led to a reduction in fertilizers, fungicides and other agricultural chemicals in many plant production systems.

How is it Being Used?

Compost tea is used both as a soil drench and as a foliar spray, and some growers utilize both application methods. It may be used full strength, although it is often diluted prior to use. Applied as a soil

drench, compost tea increases biological activity and diversity in the root zone. A healthy rhizosphere is better able to assimilate nutrients and resist disease. Direct foliar application of compost tea provides nutrients that can be utilized directly by the plant while also introducing a diverse array of microorganisms that colonize leaf surfaces. This is thought to be instrumental in the disease suppression potential of compost tea.

Compost tea has been used successfully in many applications, as discussed at the opening of this article. Predominant agricultural markets include vegetables, vineyards and orchards. Compost tea is increasingly being used in turfgrass and landscaping applications.

Whether applied to the foliage or to the soil, existing spray or irrigation equipment can usually be adapted for compost tea. Hand held sprayers are a common way to apply compost tea in residential landscape or greenhouse applications. At the other end of the spectrum, overhead pivot irrigation can be used for large-scale application of compost tea. Other methods include drip irrigation systems and truck- or tractor-mounted sprayers.

A common practice for some growers is to add additional soluble nutrients or amendments to the tea mixture either during production or as a post-production additive. This is done to economize on needed spray applications as well as for the synergistic effect between compost tea and the amendments.

Knowing how and when to apply the tea is important to the success of any production strategy that includes compost tea. The ideal number, rate and timing of applications, as well as the mode of application, varies with crop, soil type, weather and disease conditions. A general rule of thumb is to apply compost tea once or twice a month during the growing season. When disease pressures are particularly high, or during certain physiological stages of plant growth such as bud break, additional applications may be warranted.

Existing soil conditions affect the approach to compost tea application as well. For example, a soil that is very low in biological activity or has poor structure because of prior cultural or chemical treatments will require more frequent additions of compost tea over a longer duration than a relatively healthy soil.

What's Missing here???

YOUR company's advertisement!! Where else can you find an advertising medium this specific, going to the compost market only, at very competitive pricing?! Contact the USCC office by telephone or e-mail (uscc@compostingcouncil.org) to reserve space for the next edition of the **COMPOST COMMUNICATOR!**

How is it Produced?

Like compost production, there are many variables that affect the ability to make a consistent batch of compost tea.

Production variables include compost characteristics, aeration, temperature, water quality, process duration, and supplemental food sources. Compost tea system manufacturers have made great strides in minimizing the mechanical variables that are critical to the compost tea production process such as aeration, extraction, mixing, temperature, cleaning and scheduled maintenance.

Aerated compost tea systems are designed to consistently provide optimum conditions for the extraction and proliferation of beneficial aerobic microorganisms present in the starting compost, as well as extraction of the components that are either soluble or able to be held in suspension. The first known commercially available industrial-grade, aerated compost tea system was introduced in 1997 by Growing Solutions, Incorporated in Eugene, Oregon. The industry has since grown and there are now several systems on the market with a variety of features and capacities.

For compost tea production, compost is the source of organic matter, organisms and nutrients for extraction. The quality of the starting material is critical to the quality of the tea. Mature compost is generally more desirable than immature compost, since it contains greater microbial diversity, a higher humus fraction, and is less likely to contain phytotoxic compounds.

The typical processing time for aerated compost tea production ranges from 18-30 hours, with 24 hours being the most common duration. When chlorinated water is used, it is typically "off-gassed" by running the aeration system for several hours prior to adding the compost. Starting water temperature influences the rate of organism growth, the type of organisms that will grow, and dissolved oxygen levels. Most commercial compost tea production includes the addition of supplemental microbial food sources at the beginning of the process to enhance microbial growth and diversity.

The desired outcome of the aerated extraction process is a solution that contains a very high concentration and diversity of bacteria, fungi, protozoa and other beneficial microorganisms. Compost tea should also contain a portion of the soluble fraction of the compost as well as compounds that are physically extracted and held in suspension. The solution takes on a dark brown color and maintains a neutral or pleasant earthy odor when kept sufficiently aerobic. Compost tea is usually applied shortly after it is made for maximum biological effect. Generally speaking, storing or bottling compost tea is not recommended because it quickly reduces oxygen levels and decreases biological activity.

Compost Tea in the Compost Industry

An increasing number of compost producers are beginning to take an interest in the compost tea industry. Since com-

post tea requires a source of high quality compost, it offers composters a niche market that can command high prices. Some compost producers have developed specialty products catering to the compost tea industry. Rexius Forest Byproducts, for example, offers a "compost tea blend" at its Eugene, Oregon retail yard. Sonoma Valley Worm Farm in Sonoma, California sells a large percentage of its pre-composted worm castings to customers for making compost tea. These products sell for around \$1/pound.

Some composters are getting into the business of making compost tea as well. Rexius and other retailers in the Northwest make compost tea and sell it for an average of \$3/gallon. On a much larger scale, Ralph Jurgens of New Era Farm Service in Tulare, California sells over 100,000 gallons of compost tea annually, using his own company's compost, to farmers locally and up to 400 miles away. In Utah, Kelly and Tyler Tuttle have been making compost tea since the early 90's. They now have their own composting facility, and continue to sell their compost tea to farmers throughout the region.

Conclusion

Because it is a relatively new industry, the body of knowledge on aerated compost tea is not expansive—but it is growing. Enthusiastic feedback

from compost tea users has stimulated a demand for more information on feedstocks, systems, testing, and application methods. It will take time for industry researchers and the scientific community to meet this demand.

The Compost Tea Industry Association (CTIA) was formed recently to help connect producers, researchers, and users of compost tea for the purposes of information exchange. CTIA also directs the Compost Tea Education and Research Foundation (CTERF) established to focus on research, public education and outreach. A charitable organization, CTERF is funded through tax-deductible donations and research or educational grants.

For more information on CTIA or CTERF, contact
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Email: info@composttea.org
www.composttea.org

Information on 'Growing Solutions', USCC member and compost tea system manufacturer, can be found at:
www.growingsolutions.com
888-600-9558



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We've Moved!!!

The USCC has recently moved into new offices that should help us become even more organized and efficient at serving membership's needs. The new contact information is:

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