

**BREWING  
UP YOUR OWN  
PROFITABLE  
COMPOST  
TEA PARTY?**

**Make sure you include the  
sprayer in your recipe**



*While most compost teas can be close to the consistency of water, they can get syrupy and contain particulate matter requiring different pumps and filters. The application needs to be consistent, not changing as a filter or screen gets clogged, says Green Pro's Gary Maurer. Photo courtesy of Green Pro Services.*

By Rick Howland

You don't have to be old to remember the TV show "Beverly Hillbillies" and the theme song that tells the story of Jed Clampett discovering oil, also known as "black gold ... Texas tea."

So, come and listen to a story of another tea that's growing in value – just like oil. It's called "compost tea," and there are about as many recipes in the world of commercial arboriculture for this nutrient-rich spray as there are chili recipes in Texas. And the sprayer can be just as critical as the brew recipe itself.

Compost tea is more than an organic enhancer; it has proved to be highly beneficial for relieving stress when transplanting or pruning trees. It's also helpful when applied directly to roots that have been cut during construction or by accident.

The concept of compost tea has been around a hundred years or more, depending

*"As a modern method of fertilization, (compost tea) became mainstream about five years ago. The hippie generation's all-natural approach is finally becoming accepted as sound, scientifically based smart business practice."*

**James Sottilo**

who you talk to, and it is a cousin of manure tea. The last time these two brews showed up on the agricultural radar was more than 30 years ago when the "Boomer" generation was first beginning

to experiment with its own version of organic gardening.

"We need to get back to a natural cycle to provide a biological balance," says James Sottilo, TCIA member and vice president of New York-based TreeWise, an organic tree and plant care company. "People are always asking for simplicity. What could be simpler than the way nature intended?"

But even advocates of natural cycles such as Sottilo recognize that it's impractical for people to completely neglect their yards, golf courses, parks and trees while Mother Nature takes her time to break down materials and work her organic wonders. The solution? A rapidly evolving way of providing organic materials for trees, plants and grasses.

"People may not have known it, but they've been using compost tea for centuries by using organic materials and water to create 'brews' for use as fertilizers," Sottilo says. "As a modern method of fertilization, it became mainstream about five

years ago. The hippie generation's all-natural approach is finally becoming accepted as sound, scientifically based smart business practice."

Just what exactly is compost tea? The basic brew is a slurry of compost (or manure) and water. When the mix has had a chance to brew, it is then applied as a nutrient rich supplement either to the roots or the greenery of a plant.

As the science of arboriculture has gotten more sophisticated, so too has our knowledge of what constitutes a good and appropriate compost tea. One brew won't fit all. By adjusting the ingredients of the slurry, the makeup of the spray can be tailored for specific applications. The broad definition of compost tea is that of being a natural liquid bio-stimulant and soil additive made by carefully brewing compost and other components in water in appropriate proportions.

Within the compost are four naturally occurring live microorganisms – bacteria, fungi, nematodes and protozoa – each with its own nutritive function. Together, they result in a perfect storm of a natural cycle of ingredients that form the foundation for proper plant nutrition.

Bacteria, for example, are a great source of nitrogen. Fungi hold micro-nutrients. Nematodes feed and release nutrients, as well as feed on plant-damaging insects. Protozoa eat the bacteria and release nitrogen for plant use.

"The key to a proper brew of compost tea is to have the soil tested to identify what nutrients and biological microorganisms are missing and what needs to be amended," Sottilo says. "Test results guide the creation of the right compost tea brewing formula. You're looking for what's missing but, more importantly, you're looking for what to add to enhance the soil."

After that, according to Vicki H. Bess, director of BBC Laboratories Inc., in Tempe, Ariz., the performance of compost tea "depends on its preparation, compost quality, microbiology storage and application." In an article she published several years ago, Bess wrote that "when making a tea to supplement plant nutrients, many producers are fortifying the tea with supplements either during production or as a post-production additive."

Experts agree that the compost tea (liter-



*The equipment needed to apply compost tea, which when brewed is good for 12-14 hours only, needs to be low-maintenance and relatively easy to use, says SherrillTree's Tom Duffy. SherrillTree provides corrosion resistant all aluminum bodies with stainless steel fully balanced diaphragm pumps for contamination free compost tea applications.*

*"The goal is to assure a consistent, quality product to achieve success when using compost tea."*

**Tom Duffy**

ally a liquid version of compost) will impact a plant quicker than if compost is mixed into the soil, therefore, the tea formula becomes important. But the starter compost also has to be good – you make a good tea from a good compost. To a good compost, additives such as molasses, soluble kelp (seaweed), fish materials, humic acid, rock dust all can go into a tea – depending on the "brew master."

There are some dangers for the do-it-yourselfer, which includes promoting the growth of dangerous pathogens (dangerous to both plants and humans) such as E. coli and salmonella. Do your research and investigate appropriate safety gear!

Without getting into the nuances of compost tea brewing, some critical elements are oxygen, storage, agitation, ventilation and application – either foliar or soil.

"You have to get the formula right for compost tea to work at its best. The same

formula for trees doesn't work for grass and other plants," says Tom Duffy with SherrillTree of Greensboro, N.C. "The goal is to assure a consistent, quality product to achieve success when using compost tea."

That's where the equipment plays a valuable role.

SherrillTree supplies spray rigs in the 50- to 1,500-gallon capacity range (both skid mounted and fully enclosed trucks, customized with aluminum and stainless steel) to the industry, Duffy says, adding that the equipment needed to apply compost tea, which when brewed is good for 12-14 hours only, needs to be low-maintenance and relatively easy to use. He says most compost tea is brewed on the applicator's property in 35- to 200-gallon tanks that need to be rinsed with clean water at the end of every work day, and scrubbed thoroughly once a week to prevent contamination from one batch to the next. SherrillTree builds its spray equipment and can offer the complete package, including the truck if so desired. Options may include double-walled insulated tanks to better control water temp, built in ceramic cleaning nozzles, a 12-volt system for aeration or oxygenation of the water and tea combinations and, in some instances, computerized injection systems.

One thing we've learned is that while compost tea can be applied by flooding around the plant or spraying onto the top-

soil or into the foliage, all sprayer units are not appropriate. There are two problems. First, you can actually filter out or destroy

the beneficial products of compost tea before they get to the plant. Secondly, because the slurry is a bit more syrupy than

an agricultural chemical mix, you run the risk of overworking the machine and damaging the sprayer.

Rhett Clark, owner of Gregson-Clark Spraying Equipment out of Le Roy, N.Y., makes 50- to 1,500-gallon sprayers for skidding on and off a truck, plus custom, complete spray trucks. (You supply the truck, they supply components.)

"There's definitely a growing interest in organic products," he says. "A lot of research has been done, but a lot more needs to be done. The challenge in my opinion is that the [commercial tree care] industry is used to predictable results from conventional products such as pesticides and synthetic fertilizers. Organic products are not standardized but are extremely promising."

From Clark's point of view, the future is a matter of quality as well as cost and materials handling. "There has to be consistency of product – micro organisms to keep alive, temperatures and aeration of the solution and the pumping equipment needs to be easy on the microbes. Some pump systems may work great for many standard applications, but you need to use special equipment to minimize the detrimental effects on the microbial solution. Some existing spray equipment can work, sometimes requiring modifications, but knowledge is important, even if just to keep the compost tea properly aerated."

He and other manufacturers agree that filtration can be a big issue, since a sprayer unit is limited to what one can use for a spray nozzle. Therefore, the delivery method has to be more specific to the material being sprayed. Compost tea is made of pulpy materials, so the tea itself can be thicker, and that generally leads to going with a lower pressure and higher volume system. Other things, such as a coarser screen and or nozzle and a different, slower pump also differentiate a compost tea sprayer from a general purpose unit.

At Green Pro Services in Hempstead, N.Y., Gary Maurer, vice president of sales, says his company specializes in compost tea applications with units up to 1,000 gallons. The company, he says, can build sprayers of virtually any size, and, while the majority of the units they build are in the 200-300-gallon range, typical in the arborist industry are the 600-to 1,000-gal-



50 Notch Road  
West Paterson, New Jersey

Tel: 1-800-261-SPRAY (7772)

Web address:  
[www.Northeasternarborist.com](http://www.Northeasternarborist.com)

The Northeastern Sprayer is one of the finest sprayers on the market. Our sprayers are dependable, affordable and simple to operate. We offer Tree and Turf Sprayers with UV protected molded polyethylene tanks from 50 gallon to 1000 gallons. Heavy duty Mig welded steel frame for durability and long life. Power from Honda engines. We offer Pumps from John Bean, Udor or Hypro. We also offer a larger selection of hose, Spray guns and Deep root feeding injectors.

**\*\*call for options and pricing on the sprayer of your choice\*\***

Please circle 40 on Reader Service Card



With Gregson-Clark you get more than quality equipment. You get a relationship with a company that specializes in one thing – spraying equipment for green industry professionals. Our goal is to provide you with the best possible solution, whether it's a new sprayer, technical support or parts.

Call today for our new color catalog.



Toll Free: 800-706-9530  
Phone: 585-768-7035  
Fax: 585-768-4771  
[GregsonClark.com](http://GregsonClark.com)

Please circle 23 on Reader Service Card

# Good color. Vigor. Health.

## Three great results from four new ingredients.



## Doggett's new tree fertilizer.

By adding humates, natural zeolites, a specialty dispersant and an anti-volatilization agent, Doggett has created a new and more powerful tree fertilizer. These new additions allow more nutrients to get into the tree system with little or no leaching from the soil. The result is a more highly utilized form of tree fertilizer that promotes good color, vigor and health for your trees, without pushing growth. It's the latest addition from the company with the most widely used fertilizers on the market. For details on this product or any of our professional tree fertilizers and soil amendments, call 1-800-448-1862 today.

**THE DOGGETT  
CORPORATION**



1-800-448-1862  
[www.doggettcorp.com](http://www.doggettcorp.com)

Please circle 15 on Reader Service Card

lon versions.

He agrees that chemical treatment applications (pesticides, herbicides and fertilizers) have almost the same viscosity as water, and, while most compost teas can be close to the consistency of water, they can get syrupy and contain particulate matter requiring different pumps and filters.

"You don't want to end up with the microbes and not all of the food sources (in the compost tea), like molasses and kelps and various other materials. Microbes need the food source when they get to their destination," he explains.

Another important point is that the application needs to be consistent, not changing as a filter or screen gets clogged. "Compost tea sprayers require appropriately sized components with very different specifications for compost tea applications," Maurer stresses.

Just to prove that there is a difference in sprayers, the tea tank return and agitation need to be matched to keep heavier viscosity components in solution. "It's not only about what goes out the gun but also the amount of material available for return to the tank to keep all components in proper solution," he notes.

Because aeration helps keep microbes alive, it is important to take into consideration different aeration equipment for different dilutions of compost tea. Paddles and jet aeration are two sources.

"There's a lot to take into consideration," Maurer says, "so everything we work with is custom, hand-in-hand with the client." This includes getting information on the recipe and application rates to ensure that all tea components are held in solution and that aeration is appropriately sized.

One novel feature is the company's ability to supply equipment that makes the solution right on the sprayer truck. "Building a combination brewer-sprayer for the truck makes the process extremely efficient. Brew over night and use the same equipment to apply the next day. There's little to no transfer cost or labor cost to support it," Maurer says.

Tom Wanner of Minnesota Wanner Company in Minneapolis has been manufacturing pump equipment since the early 1960s when his father invented a couple of different pumps. Tom now has the sprayer side of the business, which evolved to



## Bilingual Accident Report Kit with Camera

Easy-to-use kit helps drivers quickly document accidents. Give your drivers the accident report kit that comes with its own recyclable camera. Use the recorded information for company and insurance reporting purposes. Kit with camera contains:

Recycled camera, 4½ inch x 8½ inch clipboard, 4½ inch yellow tire marker, Driver's Report at Accident Scene Form - (English and Spanish), Bilingual Witness Card, Bilingual Accident Notification Card, Bilingual Exoneration Card, Part 382.303 Post Accident Testing Form, Pen (black ink), Pouch for camera, Insulated bag.

**ARK: Bilingual Accident Report Kit with  
Camera**  
Bilingual Kit in English & Spanish.

**Price: \$19.95 (TCIA Member price: \$17)**

**Call 1-800-733-2622 or order online at  
[www.tcia.org](http://www.tcia.org)**

include tanks and related pumping equipment with units of 25 to 1,000 gallons, largely for the green industry. Wanner custom builds to suit the end user, but he also distributes other brands, so they can sell off-the-shelf fits.

"There aren't a lot of hard and fast compost tea theories that work yet. There is no industry standard. Freshness is a big issue with materials needing to be mixed in timely fashion, plus biological controls with live organisms added to organic fertilizer. That has an impact on the equipment. Compost tea is still in its developmental stages and many of today's cutting edge techniques won't be used in 10 years."

As a custom builder, he plans to listen to the customer and use those ideas and grow with the concept.

Ric Cordero is director of sales for Durand Wayland/John Bean Sprayers in LaGrange, Ga., probably the oldest maker of sprayers for the tree care industry, dating

**Check Out This New Tree and Shrub Care Product!  
More Powerful and Less Expensive**

**ALL IN ONE BIO-STIMULANT, BENEFICIAL  
BACTERIA, FUNGI AND MYCORRHIZAL PACKAGE  
FOR HEALTHY, LONG LASTING TREES AND SHRUBS**

This product  
costs less than  
\$25 to make 100  
Gallons!

**RHIZO  
FUEL**

**Rhizo Living Component**

- 19 species bacterial package
  - 2 species trichoderma
  - 7 species ectomycorrhizae
  - 4 species endomycorrhizae\*
- \*includes new *Glomus fasiculatum*

**Fuel Component**

- Soluble humic acid
  - Soluble cold water kelp
  - Vitamin C Ascorbic acid
  - Vitamin B1
  - Glycine
- Contains more components than  
other top selling products

**Directions For Use**

Rootgrow Inc.

- Direct Tank Mix:** 1/2 lb per 100 gallons of water.  
**Soil Drench:** 100 gallons will cover 1 acre or 10 gallons per 4000 sq ft of shrub beds  
**Soil Inject:** Inject 4 gallons per caliper inch 2-8 inches below ground  
**Compost Tea:** Use 1/4 lb per 100 gallons at beginning of brew cycle  
**Store:** in a cool dry place for up to 24 months

For a comparison to other products you may use go to [www.ROOTGROW.com](http://www.ROOTGROW.com) or call 866-ROOT-GRO

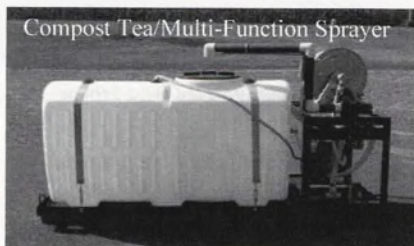
Please circle 62 on Reader Service Card



**Great News from  
Green Pro Services  
Announcing:  
New  
"Take Action"  
Incentive Program**

Take delivery of a new Titan by September 1st and

- GPS will make your first 6 lease payments of \$99. Call for additional details.
- Choose up to \$500 worth of **Free Upgrades.**
- Include our new: **ShaftDrive System, Turbo Agitation, or Cold Weather System**



**Green Pro Quality Spray Rigs  
Hempstead, NY 800-645-6464**

**Leading the Way in Spray Equipment  
Technology & Design**

Please circle 22 on Reader Service Card

to 1884. The company makes a diverse line of sprayers from 50 to 1,500 gallons. The mainstay for commercial tree care is the 50-300 gallon class. Cordero concurs that every sprayer can't be used for applying a compost tea. For mechanical agitation, his company uses a series of paddles to keep slurry homogenous and aerated. Because the compost tea era is still in its infancy, according to Cordero, there are those who maintain that such mechanical agitation beats up microbes. So, for those inclined and who prefer the alternative for their recipes, all John Bean compost tea sprayers are convertible to jet agitation.

**Uses for compost tea**

Julian Durant, director of soil for the Hendrikus Group, a landscape and soil consulting/design/contracting company in Washington state, warns that compost tea has limits and should not be viewed as a silver bullet.

"When you spray good compost tea made properly and at the right time, it works fabulously," Durant confirms. "In fact, several of our clients have asked us to cut back on the application because it was making their lawns and plants grow too fast."

But while compost tea can increase plant vigor and pest resistance, it should not be expected to serve as a weed deterrent, at least not on its own. "The main reason to use it is to increase plant vigor, and pest and disease resistance," Durant adds. "But while weed control is not the intended benefit of compost tea, a positive side effect is that the increased plant vitality makes it more successful and, consequently, better able to combat weeds, which are basically opportunists."

Durant says that one of compost tea's best attributes is that it is flexible and can be mixed easily with vitamins or minerals as needed to create a tailor-made soil enhancer. It must be brewed, however, in a highly controlled process to maximize its benefits. Advocates of compost tea have cautioned that there have been numerous examples of golf courses, lawns and parks across the United States that have been burned by a wrongly formulated application. As more and more companies learn about brewing requirements, those stories should fade over time.

