

Brewing Compost Tea at North Creek Nurseries®

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INTRODUCTION

North Creek Nurseries is committed to the pursuit of sustainable production and business practices. Our interest in brewing and using compost tea began in 2003, when we began to trial aerated compost tea drenches (ACTs) on native plants in our deep plug program. While the experiments were not scientifically verified, the observable results were dramatic. The results of these trials stimulated our interest to learn more about brewing and using compost tea in propagation and liner production.

WHAT IS COMPOST TEA?

The generally accepted definition of compost tea is: an aerobically brewed cold water extract made from compost. It contains beneficial microorganisms, nutrients, and plant growth regulators that enhance plant and soil health. Compost is the main ingredient, but the tea usually contains other ingredients to “feed” the microorganisms and/or provide supplemental plant nutrition, such as molasses, fish hydrolysate, kelp powder, rock powders, humic and fulvic acids, plant extracts, and naturally derived oils to prevent foaming during the brewing process.

BREWING TEA

The first known commercially available industrial-grade ACT system was introduced in the United States in 1997. There are now several compost tea systems on the market with a range of features and capacities, reflecting growing demand for these systems and the inception of a new industry. Though designs vary, most commercial aerated tea systems consist of a tank, a mesh container/filter for holding compost, and an aeration system. Air is pumped into the screened container to oxygenate the immersed compost and assist in forcibly extracting the microorganisms from the compost particles. The screened container is meant to contain particulate matter yet allow the microorganisms to pass through. This container is placed inside a larger vessel filled with 65 to 75 °F, nonchlorinated water. The typical extraction period for aerated compost tea is 24 h.

THE BENEFITS OF COMPOST TEA

The compost tea industry is relatively new and the current body of scientific knowledge on the benefits of compost tea is very small, but users have reported many benefits. Reported benefits of using compost tea include:

- Enhanced disease suppression (there is currently no scientific proof of this claim)
- Reduced fertilizer requirements
- Improved soil structure and nutrient retention
- Cycling of nutrients into plant-available forms
- Reduced plant stress

As in compost production, there are a number of variables that influence the ability to make a consistent batch of compost tea. Aerated compost tea system manufacturers have made progress in controlling critical mechanical variables such as

aeration, extraction, mixing, temperature, cleaning, and scheduled maintenance. Further progress is needed to effectively manage the remaining variables, to identify specific biological mechanisms responsible for the beneficial effects of compost tea, and to identify appropriate application strategies in specific cropping systems. Many research opportunities exist in this newly developing industry.

OUR RECIPE

- 8 lb of Laurel Valley Farms Tea Grade Organic Mushroom Compost
- 8 lb of Orner Farms Tea Grade Vermicompost
- 8 oz of Humisolve (Humisolve: high quality powdered humic acid complex that acts as a microbial activator and nutrient)
- 50 gal of rain water heated to 70 °F
- Brew cycle is 36 h

Humisolve is a very high quality dry powder humic acid complex that acts as both a microbial activator and nutrient. Our brew cycle is 36 h. We came up with this recipe to keep our cultural practices simple; we wanted to achieve a balance of fungal and bacterial biomass that reflected the mix of plant material we were growing in our deep plug program. We grow both prairie/grassland and woodland species in this program. In our trials we have applied teas diluted 8 : 1 (v/v) with our well water as both sprays and drenches. In production we dilute 2 : 1 (v/v) and apply to our crops on a monthly basis.

OUR BREWERS

North Creek started brewing with an EPM Earth Tea Brewers 22-gal commercial unit. We had good results brewing high quality teas with this unit but recognized the need for a larger one capable of brewing hundreds of gallons, if we were going to someday scale our brewing up to the production level. After looking at several different units, including the larger EPM models, we chose the Bob-O-Lator, a unique and simply designed unit that was economically priced. The Bob-O-Lator is a great example of “appropriate technology.” We liked the fact that it comes with 2 air pumps for additional aeration outside the compost screen. It does not come with a tank but it is capable of brewing up to 250 gal of tea at a time. We are currently using 55-gal plastic drums. We are in the process of building a “tea trailer” that will allow us to brew and apply tea to either of our farms without having to break down and move equipment and materials.

OUR BENEFITS

- Reduces need for trimming
- Greatly extends shelf life
- Dramatic reduction in overwinter losses
- Reduced irrigation and fertilization
- Produces higher quality liners

COMPOST TEA RESOURCES AND USEFUL WEBSITES

Compost Tea Industry Organization. <<http://www.composttea.org/>>.

Dr. Ingham's Monthly E-Zine. <<http://www.soilfoodweb.com/ezine.html>>.

Ingham, E.R. The compost tea brewing manual. Soil Foodweb, Inc., Corvallis, Oregon. <<http://www.soilfoodweb.com/multimedia/compostteamanual.html>>.

Organic Farming Research Foundation. 2001. Information Bulletin No. 9, Winter 2001. <<http://www.ofrf.org/publications/news/ib9.pdf>>.

The International Compost Tea Council. <<http://www.intlctc.org/>>.