Quantum Growth™

PROBIOTICS FOR PLANTS, TREES & TURF

ALL NATURAL • SAFE & NON-TOXIC • EASY-TO-USE

FOR USE WITH ALL PLANTS, TREES, TURF, FRUITS AND VEGETABLES

MICROBE Life

COMPOST TEA

Unregulated Fermentation

A Comparison of MICROBE LIFE Products and Compost Tea

From the makers of *MICROBE-LIFT®*

MADE IN THE USA

Ecological Laboratories *INC.*

Providing Environmental Solutions Since 1976

The *SCIENCE* of Organic Plant, Tree & Turf Care

GREEN EARTH Ag&Turf LLC

***Finally* Organics Doesn't Mean Compromising Results**

info@GreenEarthAgAndTurf.com

www.GreenEarthAgAndTurf.com

facebook.com/GreenEarthAg

(866) 374-5101

53 East Industrial Rd #C4 Branford, CT 06405

MICROBE LIFE and COMPOST TEA COMPARISON

Compost Tea is Unregulated Fermentation

While the use of compost tea is growing in popularity, there are reasons to take a closer look at the negative issues related to making compost or manure tea:

Safety and Pathogens (human, animal and plant-specific)

Today there are many easy to follow instruction on how to produce your own back yard tea. Just consider the following information prior to doing so.

What is Compost Tea?

Compost tea is produced in an aerobic process that involves extracting microbes from organic compost along with the release of nutrients from the material. The idea is to grow a liquid product from compost that will contain a numbers of beneficial organisms as an organic approach to plant/soil care.

But What Are You Growing?

The concept of compost tea is quite simple, but making it involves a scientific process that can become very complex. Without proper procedures, there is little ability to control what you grow or to duplicate the product you produce. The question you must ask is, "Is the product good, and for how long will it remain so?"

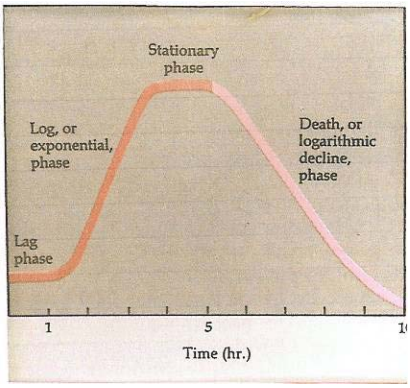
Compost tea is grown by taking compost waste that contains beneficial microorganisms, placing it in a container and adding water and air to allow bacteria and fungi to multiply. Air keeps the water oxygenated to support beneficial bacteria and fungi growth, but you must be very careful not to include old food and meat waste into your compost material or it may produce pathogens like E. coli or others.

At the end of the compost brewing cycle, you will have a concentrated liquid full of unknown microorganisms including bacteria, fungi, protozoa, nematodes, and almost certainly a number of pathogens that could potentially prove damaging to plants, animals and even humans.

In commercial fermentation we refer to this backyard practice as unregulated and uncontrolled fermentation, resulting in an unknown brew of cultures, activity and value with little ability for the grower to duplicate the same product again.

Compost tea has been used by people all over the world with mixed results. There is good reason for this due to the great diversity in the quality of the compost material used, and in the starter cultures or manure tea used to start the compost process. Another important variable is the length of the grow process, since time is a key factor in product growth and in stability.

Take a look at the biological growth chart. The time frame changes significantly with substrate (food) and with temperature. But one thing is a constant - the declining or DEATH phase. After a period of time the microbes run out of food, and death follows. To determine the length of time you should let your compost mature to achieve an active and effective product would require laboratory equipment and a fair understand of fermentation.



For maximum benefit, the composting process must be halted at the peak of the stationary phase and then be stabilized or culture death follows quickly. No active microbes, no benefit.

How Long is the Grow Cycle for Composting?

The composting process is significantly different for each batch based on the various compost material used. Microorganism growth is shown in the biological growth chart and begins with the Lag phase, an adjustment period to the substrate, temperature, pH and concentration, where the biological growth process starts. Next comes the Log phase, where the waste is converted and microbes grow. This is followed by the Stationary phase, expressed as F to M, or Food to Mass, a balance in compost conversion (degradation) and microorganism growth. Last is the Death or Decline phase. In this critical end process, cultures die quite rapidly once the food has been consumed (oxidation reduction).

Without a method of stabilizing the culture growth as well as the end of the compost process, compost cultures die rapidly and must be used on the same day they are produced for maximum effectiveness. In most cases, without proper evaluation equipment the Decline phase may take place prior to completion of the compost process and all that remains is a colored "tea" and potential pathogens.

Fermentation is an involved, scientific process - one that requires specific substrate, a time frame to grow, specific microorganisms used as a starter seed, and special procedures and methods to stabilize them. Stringent laboratory quality control procedures are also required to assure product safety. MICROBE LIFE products eliminates the guesswork for meeting important plant and soil biological associations.

Real Science and Methods

It is true that you grow what you seed. If you start with an unknown seed and do not have the ability to control the entire composting process including air and water contamination, there is no way to control what is produced nor to control pathogenic cultures. Before using backyard compost tea, look at the value and assurance MICROBE LIFE technology provides by offering safe and effective products for the enhancement of plant, soil and gardening practices.

1 of 3 extensive laboratories at Ecological Laboratories, Inc.

Ecological Laboratories, with years of fermentation experience, takes great care in product development and fermentation with professional quality control and proven plant enhancement capabilities.

Other companies offer less expensive compost tea brewers or books on how to make your own brewer and compost tea. However, very few of these companies supply lab tests or data to support their brewer designs or resulting compost tea. Many of these brewers don't make quality compost tea and using it on your plants and soil will not only have very little effect on their health but in some instances may actually be detrimental.

Compare our technologies, capabilities, products and results against any of our competitors and you will see the difference. This is because we have spent considerable time and money refining our fermentation technologies to provide the highest-quality products possible!

The BIG questions to ask yourself are:

How to Control Growth? What is it Made Of? Is It Safe?

Typical Compost Instructions from Competitors

Compost tea is easily made by soaking compost in water with aeration. The resulting compost tea can be used as a foliar spray (sprayed on the leaves) or applied to the soil. Compost is a wonderful addition to soil to help gardens grow better.

Our competitors also say that all you need is a suitable container (a 5 gallon bucket or even a 55 gallon drum), some manure compost starter tea or starter cultures (purchased or made), an aquarium air pump and a little time to make compost tea.

Instructions advise using compost tea to replace chemical-based fertilizers, pesticides, and fungicides for a safer garden and environment. Compost tea claims to:

- Increase plant growth
- Provide nutrients to plants and soil
- Provide beneficial organisms
- Help to suppress diseases
- Replace toxic garden chemicals

But are these claims true? Studies indicate vast differences in the use of compost tea.

This is very questionable from a scientific standpoint. Consider:

- What bacteria (if any) am I really growing in my container?
- How long is the grow cycle (time)?
- How long will they be active? (NOT LONG!)
- Do I need to control the temperature or pH?
- What is the shelf life of my product?
- Will I have consistent results?
- How can I determine product benefits?

MICROBE LIFE uses soil/hydro and plant enhancement technology that exceeds any and all competitive formulations or compost enhancement products.

MICROBE LIFE products incorporate microbial technology capable of promoting improvement in plant processes involving associated relationships with biology from “foliar to root and rhizosphere.”

Why spend money and take the chance to create an unknown product and risk pathogen contamination? Visit ***www.MicrobeLife.com*** and ***www.GrowQuestum.com*** for a better answer to help you improve soil and plant biology.