



PERMACULTURE PATHWAYS

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Compost Tea - A beginners manual

THE HOLISTIC APPROACH TO FEEDING
YOUR GARDEN

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What is Compost Tea?

COMPOST TEA IS A LIQUID PRODUCED BY EXTRACTING BACTERIA, FUNGI, PROTOZOA AND NEMATODES FROM COMPOST.

The two key reasons to use compost tea are:

1. Impart microbial life into the soil or onto the foliage of plants
2. Add soluble nutrients to the foliage or to the soil to feed the organisms and the plants present.

The method you choose to adopt when brewing is critical in ensuring your final brew contains the nutrients desired. The biological organisms that are active and performing a function will differ, depending on:

- temperature of brewing,
- the foods added to the brew,
- oxygen concentrations in the brewer during production,
- the initial compost used: which species are present that can be extracted,
- the length of time tea is brewed.

Aerobic organisms are the most beneficial as they promote the processes that a plant needs in order to grow without stress and with a greater resistance to disease. To enhance this community of beneficials, the compost tea must remain aerobic (greater than 5.5ppm oxygen).

Anaerobic conditions (below 2 to 4 mg oxygen per L for example) during brewing can result in the growth of some quite detrimental microbes and also produce some very detrimental metabolites. It is best to avoid extremely low oxygen concentrations during brewing.

Types of Compost Teas



Aerated Compost Tea (ACT)

ACT is a water extract of compost, brewed without use of heat, which allows beneficial organisms to grow to high numbers. Foods may or may not be added.



Non-aerated Compost Tea

A water extract, brewed, with or without added foods, but aeration is not provided. If a highly mature compost with few active organisms is used, the organisms will not be highly active and thus not use up 2 oxygen during the brewing.



Anaerobic Compost Tea

A brewed water-extract but foods are added (or from the compost) to result in organisms multiplying rapidly, such that oxygen use is greater than oxygen diffusion into the water.

Benefits of Compost Tea for your soil & plants

COMPOST TEA WHEN DONE RIGHT CAN HAVE MANY BENEFITS.

- **Plants take up nutrients in the tea needed to allow them to resist infection, pest & disease more rapidly**
- **Food resources in the tea allow beneficial microorganisms to grow, protecting plant surfaces**
- **Nutrients are retained on the leaf surface and become available to the plant with time, improving plant nutrition and health**
- **Soil structure is improved and more oxygen reaches the root system, preventing toxins from being produced in the soil, increasing plant health**
- **Water-retention in soil is improved.**
- **Rooting depth of the plants is increased**
- **Decomposition of plant materials and toxins is increased**
- **The nutritional quality of plant produce is enhanced**
- **Worker exposure to potentially harmful chemicals is reduced**
- **Chemical-based pesticides, herbicides and fertilizers are no longer used**
- **Chemical input and labor costs are reduced**
- **Plant growth can be improved.**

Compost Tea Recipe

THERE ARE VARIOUS TEA RECIPES FOR VARIOUS PLANTS. VEGETABLES PREFER A BACTERIAL DOMINATED SOIL AND THEREFORE TEA WHILE TREES PREFER A FUNGAL DOMINATED SYSTEM AND THEREFORE A DIFFERENT TYPE OF TEA.

Recipe 1 - Bacteria dominated tea:

INGREDIENTS

- Non-chlorinated tap water (enough to fill a 20 litre bucket)
- 2 cups fully finished organic compost

*A note here....You are essentially breeding what is in your compost so it is very important that you use the best quality compost you can so that you know what you're putting on your garden. When taken seriously many people have their compost tested before using it for quality assurance)

- 1 tablespoon unsulfured blackstrap molasses
- 1 tablespoon liquid kelp or fish fertilizer (or soak kelp meal in water)

METHOD

Aerate for 12-24 hours.

APPLICATION

- Dilute 1-5 ratio in non-chlorinated water (meaning 1 part tea to 5 parts water)
- Apply compost teas when plants and soil are moist
- Early morning and/ or near dusk, when dew conditions are present will help to ensure that beneficial organisms cultivated in compost teas remain active.
- ☑ For best results apply compost teas monthly or at regular watering intervals.

Other Types of homemade fertilisers

1

Weed Teas

Fresh plant materials (e.g., nettles, chamomile, marigolds, and horsetail) can be added to water to remove plant juices. Organisms on the surface of the plant material grow on the dead plant tissues and often go anaerobic for a period of time. As the plant material is used up, organisms stop growing, allowing oxygen to diffuse back into the tea. Usually high numbers of ciliates, extremely low fungal biomass, and many bacteria are observed

2

Manure Teas

Manure is added to water. If no mixing or stirring is used, only soluble nutrients will be extracted and the tea will typically be high in nitrates, salts, phosphorus, and/or potassium.

3

Worm Wee (or leachate)

This is the liquid at the bottom of a wormfarm and is pure gold in homemade fertilisers.

A worm's favourite food is actually bacteria, and their stomach is teeming with them. These bacteria make all the nutrients that pass through a worm essentially bioavailable (available for uptake by a plant). So worm wee is chockers full of available nutrients for plants.

*I will note here that some people don't like to use worm wee directly as it can add pathogens (bad guys in soil) While this is a valid argument, this is up for debate and I still use it with great results.

AERATION

HOW TO AERATE PROPERLY FOR THE BEST MICROBIAL RESULTS

Aerating compost tea is vital for cultivating a nutrient-rich, biologically active solution that supports plant health. By introducing oxygen through aeration, beneficial aerobic microorganisms thrive, enhancing nutrient availability and suppressing harmful pathogens. This process creates a balanced environment where microbes can multiply rapidly, delivering essential nutrients to plants and improving soil structure. Without proper aeration, compost tea can become anaerobic, fostering the growth of detrimental bacteria and reducing its effectiveness as a fertilizer. Therefore, ensuring adequate aeration is key to maximizing the benefits of compost tea for your garden.

BASIC SET UP

The most basic set up you can do is to use a 20L bucket, a small fish pump, A stick that sits across the rim of the bucket with a handful of compost in a stocking suspended in the water tied to the stick across the rim.

To up your game however you can invest in a pump like the bubblesnake pump from www.composttealab.com which is a really great, affordable pump for small systems.

REFERENCE:

COMPOST TEA BREWING MANUAL 5TH EDITION -DR ELAINE INGHAM
WWW.SOILFOODWEB.COM.AU