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COMPOST TEA

How to Use and Apply

For most gardeners using AACT (Actively Aerated Compost Tea) is the easiest and most common. AACT is a brewed tea and not an Extract or Leachate. Several nurseries in the greater Houston area now sell fresh made compost tea by the gallon. One can purchase the tea and container at the nursery or bring your own container and save a couple dollars.

A good fresh compost tea will have a rich earthy fragrance sometimes with hints of molasses or seaweed depending on what was added during the brewing. If the tea smells bad, then most likely it is bad.

Compost tea is not: a fertilizer but can provide fertility, a fungicide but can prevent disease, an insecticide but can reduce herbivory, a herbicide but can mitigate weed problems.

Compost tea can be used as: a foliar fertilizer, a bio stimulant, a microbial inoculant, for disease suppression (of over 24 types of pathogens both foliar and soil borne), help with organic residue decomposition, help with pest suppression and just be used to enhance overall soil and plant biology and health.

It is important to remember that the value of compost tea comes from the microbes living in it. These microbes need oxygen to live just as we do. When the oxygen that is dissolved in water is used up they begin to die off, hence for best results it is important to use the tea when one gets home and not wait till the next day.

Next we have to decide how we are going to use the tea, to treat an existing problem or use as a preventative. Then we have to decide if we are going to use the tea as a soil drench around roots or as a foliar spray.

If we are treating a existing problem then it is best to apply the tea at full strength. If we are using the tea as a preventative then it can be diluted with water to 3-4 times its original volume before application. NOTE: Do not use municipal water as the chlorine, chloramines and fluoride kill the microbes and are bad for plants. Either filter the water to remove these toxic chemicals or use rainwater or well water.



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When using compost tea as a drench, we just simply pour it around the plants roots and let it soak into the soil or potting media.

If we are using the compost tea as a foliar application then a few extra items to be aware of that will greatly enhance ones success.

First depending on the source of the tea it may need to be filtered or screened to prevent pieces of compost from clogging up ones sprayer. This can be done by filtering it through any fine meshed material (old panty hose, piece of sheet, cheese cloth, etc.).

Next for compost tea we need to set our sprayer to apply large droplets (just the opposite of applying toxic chemicals). When we use small droplets the ultraviolet light in sunlight (UV) will penetrate the droplet and kill the microbes. When we use large droplets the ultraviolet light is refracted away and does not penetrate the droplet.

Compost tea also needs to be applied with a gentle spray for several reasons. When a microbe rapidly goes from high pressure (inside the sprayer) to low pressure as it the droplet moves through the air to the plant the extreme pressure drop ruptures the cell membranes of the microbes killing them. This is similar to a skin diver surfacing to quickly which causes the bends or a astronaut suddenly exposed to the vacuum of space where they may explode.

The next reason for a gentle spray comes from physics. We all know what happens to a bug that hits our windshield when we are driving down the highway at 50 miles per hour...splat. The same thing happens to the microbes when they hit a leafs surface except that the velocity is much higher, often over 200 miles per hour or even much higher. The kinetic energy (KE) of the microbes is related to the velocity squared ($KE=1/2 mV^2$). This means even a small change in velocity is a large change in energy (this is the same effect we see in the wind speed associated with hurricanes and the damage they cause). Hence, the microbes hit the leaf and go splat and the tea does not work.

Applying the tea early in the morning or late in the day gives the best results when it is cooler and more moist. It reduces the UV exposure and slows the drying of the droplet giving the microbes time to adjust to the changing conditions. Also if one is doing foliar feeding, it works best when the stomata are wide



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open which is during the morning and evening with cooler moist conditions.

We can enhance the tea or perform multiple functions at the same time by adding adjuvants. These may be seaweed extracts, liquid humates or fish emulsion for foliar feeding or agricultural molasses to help with insect control.

A lot of folks like to add surfactants to help the tea stick to the leaves better. There are many available for use in horticulture that our local nurseries carry.

Always purchase a tea that is brewed at same temperature that it will be applied at or one can shock the microbes into dormancy (the tea will not work properly).

In other words if it is to be applied outside in the garden then the tea should have been brewed outside also.