



200L

Compost Tea Brewer



OPERATING MANUAL

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Congratulations on buying a Symbio Soil Life 200 litre Bio Brewer, you now have the basic equipment needed to reintroduce the life to your soil, root zone or growing media to improve the health of your plants and reduce inputs of inorganic fertilisers and pesticides.

Kit Contents

Please check the kit is complete prior to assembly



1 x 90° Elbow



2 x Air Line Clamps



1 x Jubilee Clip



1 x Outlet Pipe



1 x Air Compressor



1 x Hanging Pole



1 x Air Line



1 x Tea Bag



1 x Filter Sock



1 x 200L Brewer

Assembly Procedure

Step 1

Turn the brewer upside down to expose the connector to the air diffuser. Once exposed feed the air line through the pre-drilled hole in the side of the brewer wall and connect to the air diffuser.



Ensure that the pipe is fully pushed on the diffuser connector to guarantee an air tight seal. Once this has been done turn the brewer back the right way up



Step 2

the next step is to connect the air pump to the brewer. Firstly put one air line clamp onto the smaller end of the 90° elbow. Push this end onto the air pump outlet. Make sure this is as far on as possible, once this is on release the air line clamp and move back up to where the air pump and elbow meet and release. Repeat this on the larger diameter side of the 90° elbow with the air line hose.



Step 3

The last step is to attach the outlet pipe to the outlet. This is done with the jubilee clip provided. Place the jubilee clip onto the outlet pipe and push the pipe onto the outlet valve ensuring this is on fully tighten the jubilee clip with a screwdriver until tight.



Making Good Aerated Compost Tea

How Much Compost should I use?

The Symbio Compost Tea Packs contain all the pre tested compost and nutrients needed to make a good compost tea.

Symbio supplies Compost Tea Packs in 50 and 100 Litre Sizes. The pack size describes the minimum amount of water required.

e.g The 100 litre pack is designed to be made with a minimum of 100 litres of water, there is no maximum amount of water up to the brewers capacity.

Approximate coverage per pack

100 Litre compost tea pack covers

10,000 sq.m soil with low organic matter < 2% and peat growing media. e.g golf greens, sand sports pitches

10,000 – 20,000 sq.m soil with average organic matter 2-4%

20,000 – 40,000 sq.m soil with high organic matter > 4% and peat free growing media

For advice on quantities for specific soils contact your Symbio advisor

Operating Instructions

Ensure both the outlet valve is in the closed position.



Valve Closed



Valve Open

Fill the 200 Brewer with enough water as described above

If the water is chlorinated fill up the day before use or aerate the water for at least 60 minutes until all odour of chlorine has gone.

Check all connections are closed tightly and not leaking.

Making Good Aerated Compost Tea

Adding the compost tea pack

Adding the compost tea pack and additive

Adding the compost tea and additive to the brewer can be done in two ways:

Option 1

Add the compost and compost tea additive directly to the water. Then turn on the aeration pump.

Option 2

Put the compost and additives into the brew with a Compost Tea Bag provided and close the Velcro tightly.

Order of filling the bag:

1. Add the compost first to line the bag
2. Compost tea stimulants
3. Fungal or bacterial additives

Lay the metal pole in the V cut outs on the top of the brewer and tie the tea bag to the pole using the string.

Attach the tea bag so it is completely submerged in the water and hanging directly above the air diffuser.

If the Brew starts to foam add 1 tablespoon (25 ml) of vegetable oil

To decant the finished compost tea from the Symbio 200L brewer

DO NOT ATTEMPT TO TIP THE 200L BREWER WHEN FULL

1. When the compost tea is ready to use (see brewing times on page 8).
2. Disconnect the electrical supply.
3. Leave to stand for 20 minutes to allow solid matter to settle out or float to the surface.
4. Open the outlet gate valve on outlet port and decant the tea through the Filter Sock
5. Apply the tea as soon as possible ideally within four 4 hours of completing the brewing process. (Compost tea is full of living organisms and has a very short shelf-life.)

If you cannot apply the compost tea within four 4 hours, leave it in the brewer and aerate for 5-10 minutes every hour.

6. Clean the Symbio 200L brewer following the cleaning instructions

Compost Tea Application Guide

Use the compost tea within 4-5 hours of switching off the aerator, otherwise the micro-organisms will use up all the oxygen and the brew will go anaerobic.

If it is not possible to apply the tea within 4 hours then run the aerator for 5 –10 minutes every hour and apply a tablespoon of brown sugar, Liquid Seaweed or Fish Hydrolysate to feed the micro-organisms.

Compost tea may be applied neat or diluted with clean chlorine free water. Ideally it should be made and diluted with your irrigation water. If you irrigate with mains water, add it to the spray or stock tank several hours before adding the compost tea to allow chlorine to dissipate.

Soil Application

For grasses and cereals

The following is a guide to the amount of compost tea required for grass and crops

100 Litre compost tea pack covers

10,000 sq. m soil with low organic matter < 2% and peat growing media. e.g. golf greens, sand sports pitches

10,000 – 20,000 sq. m soil with average organic matter 2-4%

20,000 – 40,000 sq. m soil with high organic matter > 4% and peat free growing media

Use wide nozzle or spray heads. Dilute the tea with enough chlorine free water to match your usual spray settings. If you use mains water fill up the tank a few hours before use to allow the chlorine to dissipate before adding the compost tea.

You cannot overdose compost tea. For areas of poor quality soil, poor growth or suffering high levels of wear the soil will benefit from increased application rates.

For Horticulture and Landscape

For plants grown in pots or containers compost tea may be applied via sprayer or the irrigation system.

If irrigating add the tea at the end of the irrigation cycle if possible to prevent leaching out of the pot. Compost teas may be applied via most drip feed irrigation systems the widest nozzle or aperture is recommended. To prevent biomass build up the irrigation lines should be rinsed through with fulvic acid (Symbio Fulvic Booster) or other organic acid or line cleaner.

Frequency of application depends upon the growing media and fertiliser regime but as a general rule one application every 2 - 3 weeks is sufficient. This may be increased for diseased or stress plants.

Compost Tea Application Guide

For vines, fruit trees, stressed urban trees, flower beds and heavily worn play areas.

Drench the rootzone with at least 200 litres of good aerated compost tea per hectare. Dilute in enough water to thoroughly wet the rootzone out to the drip line on larger trees

For root vegetables, potatoes, bulbs, alliums.

Apply 50-100 litres per hectare. Drench the soil along the rows. Apply at planting, first growth then if possible monthly during the growing season. Compost teas may be applied via the irrigation system at night or in low light conditions.

Compost tea can be diluted in any amount of water that allows for even distribution of the microbial content.

For best results dilute with the water used for irrigation. If you use chlorinated mains water add it to the tank several hours before adding compost teas to allow the chlorine to dissipate.

Foliar Application

You need at least 50 litres of compost tea per hectare, diluted no more than 1:1 unless testing shows the tea to be very rich in bacteria and fungi. Add 25 grams of Bacterial Additive per 100 litres of Brewing liquid.

The micro-organisms are light sensitive so apply on cloudy days or in the evening if possible, especially if you are applying as a foliar spray.

Compost tea has no direct pesticidal effect, any benefit is gained by beneficial bacteria colonising any lesions in the plants surface, growing on the exudates preventing pathogens from entering and attacking the plant. To have any effect at least 70% of the leaf surface must be covered on the top and bottom of the leaf.

If cutting or harvesting ensure potential infection sites are covered before the pathogens can find them on the leaf, or root, Apply compost teas as soon as possible after harvest. Compost tea is a pro-biotic, not an anti-biotic.

Commercial Sprayers

When using commercial sprayers, the compost tea may be mixed with as much water as is required to get an even spray pattern. Use the widest nozzle setting possible - at least 1mm and the lowest pressure possible, ideally no more than 2 bar.

Make sure there are no pesticide residues in the tank

Compost Tea Brewing Techniques

Brewing Times

All times below are based on an ambient air temperature of approx. 15-20°C. Extend the brewing time if it is colder.

The quantity and type of microbe you grow is dependent upon the content and quality of compost, the nutrients added and the length of time taken for the brewing process. The following suggestions are for compost tea made with Symbio approved additives and nutrients

Bacterial Dominant Tea

In general bacteria grow first and fastest and you should have a bacterial dominant tea if brewed for 10-12 hours.

Uses – Foliar feeding, soil drench for annual plants, early spring start for annual Grasses

Balanced Bacterial: Fungal Tea

Fungi feed on more complex nutrients like cellulose and lignin which are harder to degrade so they take longer to grow. As a general rule brew your tea for 18-24 hours for a balanced tea with nematodes and protozoa.

Uses – Use as a soil drench for most soils, amenity turf and crops
Fungal Dominant Tea

It is not so easy to make a fungal dominant tea. We recommend adding Symbio Fungal Additive for compost teas and brewing for a maximum of 36 hours. Nematodes tend to reduce in numbers after 18-24 hours.

Uses – Use as a soil drench for trees. On amenity turf systems apply where fairy rings and fungal dry patch are a problem. In nursery and horticulture apply when soil born fungal diseases are present

Protozoan Dominant Tea

Protozoa eat bacteria so eventually protozoan numbers grow and the bacterial population reduces. This usually takes 36-48 hours depending on ambient temperature.

Uses – Where analysis shows protozoan numbers are low.

The above timings are an approximate guide only. We suggest you look at your tea under a microscope or have it analysed. Contact your Symbio advisor to find out when Symbio is running its next microscope class in your area

Tank Mixing Biostimulants and Organic Fertilisers with Compost Teas

- ✓ Most biostimulants and low levels of liquid organic fertilisers may be mixed with compost teas
- ✓ When tank mixing any product add it to the pre-diluted compost tea in the spray or stock tank.
- ✓ As a general rule the following biostimulants complement the activity of compost teas

Humic Acid (Symbio Humic Booster) acts as a fungal food, increases CEC, helps soil aggregation and provides a food source for fungal growth. Applied when soil temperature is above 8°C

Fish Blood and Bone and Hydrolysate (Symbio BioBooster Fish Hydrolysate 8.7.7) use as soil drench or foliar spray

Acts as a fungal and bacterial biostimulant, and foliar and root based nutrient, encourages growth in cool damp weather. Ideal to encourage early growth may be applied throughout the growing season.

Fulvic Acid (Symbio Fulvic Booster) use as soil drench or foliar spray

Acts as a bacterial and fungal food, has been called Liquid Sunshine because it is so effective at stimulating low light and cool season growth. It is also an excellent chelating agent and thickens cell walls. Apply at 10litres per hectare in early spring and late autumn to encourage growth and at 2.5 litres per hectare as a year round biostimulant.

Liquid Seaweed (Symbio Liquid Seaweed 50% solid matter) use as soil drench

Acts as a fungal and bacterial food and plant tonic. Apply throughout the growing season.

Chitin (Symbio Root Repair) use as soil drench

Feeds fungi and bacteria and beneficial nematodes. An excellent root stimulant it also helps develop the higher food web to competitively exclude root feeding nematodes. Apply at 15 litres per hectare to repair nematode damage and 2.5 litres per hectare as a biostimulant.

Yucca (Symbio Supa Yucca) use as soil drench or foliar spray

Has wetting agent and penetrant properties. Apply 1 Litre per hectare or 10m³ growing media to aid penetration in hydrophobic or dry soils throughout the summer.

Molasses (Symbio Molasses) use as soil drench

Acts as a bacterial stimulant, apply it to increase bacterial numbers in poor quality soils, peat based root zones, in spring and as a general biostimulant when growing annual grasses and brassicas.

Liquid Organic Fertilisers (Symbio BioBooster) use as soil drench

Up to 20 litres per hectare may be tank mixed and used as a biostimulant and light nutrient source.

Other tank mixable products

Oxygen (Symbio Liquid Aeration) use as soil drench

Provides oxygen for aerated biological activity and oxidising anaerobic soils. Apply 1 litre per hectare of soil to be covered.

Potassium Silicate (Symbio Silicon) use as foliar drench

Hardens cell walls, prevents water loss, and strengthens the plant against disease. Revitalises plants and grass. Add a maximum of 5 litres per 500 litres of diluted compost tea. Pre-dilute Symbio Silicon 5 litres in 20 litres of water before adding to the spray tank.

For advice on use and application contact your Symbio advisor or phone
44 (0) 1428 685762 or email info@symbio.co.uk

Compost Tea Brewer Maintenance

Cleaning the Symbio 200 brewer.

N.B It is very important to clean the brewer thoroughly after each use to prevent anaerobic bacteria and disease causing pathogens to grow on the nutrients left behind.

The 200 Bio Brewer is white for a purpose. You should not be able to see any brown staining in the brew tank

1. Disconnect the electrical supply.
2. Open outlet gate valve
3. Tip the 200 L brewer on its side, opposite the outlet tape. Wash all debris and bio film from the 200 L brewer with a hose, tip upside down to drain so no water is remaining in the 200 L brewer and allow to dry.
4. Clean the barrel after use with Symbio Compost Tea Brewer Cleaning Solution hydrogen peroxide e.g. Napisan or weak bleach. Fill the brewer with clean water, add the cleaning solution in accordance with instructions. Stand for an hour then run the air pump for 20-30 minutes. Wipe away any remaining organic matter off the sides.

DO NOT USE HYDROGEN PEROXIDE OR BLEACH IMMEDIATELY BEFORE USE

5. Drain through both valves and allow to dry.

Advice and questions

If you have any queries or questions about how to use and operate our 200L brewers please contact your local technical sales representative. Alternatively please contact our head office by phone or email



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