



GEOTEA 250 COMPOST TEA BREWING MACHINE

OPERATION MANUAL

Congratulations! You are about to use the absolute finest Actively Aerated Compost Tea Brewer I can think of. With reasonable care and occasional replacement of synthetic parts, this GEOTEA Compost Tea Brewer should last well into this millennium.

At the heart of the unit is the Sweetwater Regenerative Blower, among the finest in the industry. This well designed air pump is energy-efficient, quiet and reliable. The only maintenance required is to wash the inlet air filter as necessary.

The stainless steel workmanship is performed by skilled Swiss craftsmen in a small southern Wisconsin region known for its handiwork in Old-World cheese-making, dairy and brewing equipment manufacturing expertise.

All components are designed and constructed for maximum reliability, durability and ease of cleanliness, with minimum airflow and water restriction. Great detail was given to calculations and relationships of blower cfm (cubic feet per minute, the standard measurement of airflow in the US) specifications, water depth and pressure, tube volume, circulation, aeration and orifice output. All factors are balanced for the system to work in a harmonious manner.

Thank you for choosing GEOTEA brand products. Please call our toll-free telephone number with any questions or comments, 866-266-3474. Or e-mail: Bob@GreaterEarthOrganics.com.

Best regards,

Bob Posthuma
Greater Earth Organics, LLC
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MANUAL

*Orientation basics; (so we all speak the same language)... Front, as I use it, means valve side of tank (tote), channel side of frame – motor is on right when facing front of frame. Clean means clean.

IMPORTANT!! READ THIS FIRST!! (at least 1 & 2)

IMPORTANT ALSO!! Be Careful, Take your time, Pay attention to how you lift things.

- 1) Slide unit out of box.
- 2) Before unclamping anything, take detailed notice of tube arrangement for shipping and storage mode. Unit will re-assemble only this way. (Valve clearance and lower left clamp clearance vs. extractor dome.)



This is what the unit is supposed to look like when fully assembled!!



- 3) Remove airtube (the long tube with all the 1/8" holes in it) from upper front of frame first. Remove extractor dome. Inside the teabag, you will find a spare teabag, 7/16ths wrench, spare gaskets and two "J-clamps". Remove clamps and tubes. It's kind of like a puzzle.
- 4) Remove the two black rubber clamp cushions from the straight tube. Place clamp cushions on aerator yoke (the "U" shaped tube with valve). "Tee" should face back.
- 5) Insert "J-clamps" into the holes at either end of square tube of frame. Put these in before setting frame on tote. They will act as guardrails to help stabilize frame on tote during positioning. Place frame on tote. Carefully slide to rear third of tote. Tighten "J-clamps" onto tote frame so front edge of frame channel is approx. 1" behind longitudinal center of tote frame.



- 6) Clamp “aerator yoke” on to frame as shown. (it’s easiest to tighten clamp nuts if the nuts face to the outside of aerator yoke) Position on left side of frame so bottom “airtube” is within 3 – 6” from left sidewall of tank.



- 7) Attach clear/blue flexible hose to “tee” of “aerator yoke”. Loosen extra hoseclamp and slide to “tee”. Tighten hose clamp with screwdriver or socket.
- 8) Assemble “air support tube” to “airtube”. Ensure proper placement of gasket. Hand tighten sanitary clamp. Check tightness of end clamps.

- 9) Clamp airtube assembly to left side of aerator yoke. Airtube should be oriented evenly across side and bottom of tank, approx. 3 – 6" from sidewall and bottom.



EXTRACTOR DOME



The Teabag clamps onto the Extractor Dome to make the Microbe Liberation Chamber. Use care when clamping to ensure that teabag material is spaced properly and has no large bunches or gaps that may allow compost to escape. It is called a Microbe Liberation Chamber because it performs one of the main goals of compost tea brewing - good extraction of microbes. Good compost is actually only about 40% organic matter, the remaining 60% is living, functioning microorganisms! Due to GEOTEA's unique submerged dome design, all eight cubic feet per minute* of air that enters the Microbe Liberation Chamber to jostle and aerate the compost, must also leave at the same rate - providing maximum persuasion for the microbes to leave the confinement of the teabag and enter your tea! Free the microbes!! Heal the Land!! (*if air volume were measured in gallons, that would equal more than a 55 gallon drum of air per minute!)

GETTING STARTED

Note: This is intended as an overview of the tea- making process. It is not intended to cover all aspects of tea brewing. Please consult us at Greater Earth Organics, LLC, or a SFI (Soil Foodweb, Inc., www.soilfoodwebnewyork.com, the authority in compost and compost tea technology) Certified Soilfoodweb Advisor or equivalent for specifics such as water quality, temperature, dissolved oxygen levels, recipe variations, etc.

- 1) Ensure that all parts and equipment are clean.
- 2) Fill tank with appropriate water. Ensure water quality before you start. Is it well water or chlorinated? Chloramine? Flouride? pH? If you are unsure of your water, consult SFI or equivalent for parameters. What about water temperature? Optimum seems to be around 65 to 72 degrees F. Great tea can be made with cooler water. Brew cycle may be longer. Warmer water will hold less oxygen. Test. Experiment. Monitor. Know you are making great tea. Utilize the technology that quality labs like SFI can provide. Buy a dissolved oxygen meter.
- 3) Fill to 250 gallons. Less water may be used. Extractor Dome is most efficient when the tote is filled with enough water to submerge bottom rim of Dome.
- 4) With valve in “open” position (parallel to tube) and camlok cap off, start blower. This procedure helps blower motor ramp up to speed easier, but it will splash a little. If you rather, the valve may be closed during the start-up procedure. When blower attains full speed, turn valve to “off” (perpendicular to tube). Note handle lock slide on underside of valve handle. Water should aerate vigorously.



MICROBE LIBERATION CHAMBER

- 1) With clamp properly installed in teabag hem, fill teabag 3/4 full with high quality compost or blend (12 – 16 lbs., or more accurately, 16 quarts). High quality is critical to good tea. Insist on SFI documentation, or equivalent. For convenience and quality assurance, I offer very high quality fungal dominated compost in pre-measured 16 quart bags. Please contact my email, Bob@GreaterEarthOrganics.com for more information.



- 2) Make sure bottom of Extractor Dome is properly capped, with well-seated gasket and toggle clamp. Insert tube into bag to the bottom. Place clamp over bottom rim of Dome and clamp securely. Ensure proper seating of clamp around Dome.





- 3) With Brewer running, clamp Microbe Liberation Chamber onto male camlok fitting. You should immediately see the water turning brown! This is an indication of great extraction.





4) Turn valve to “open” position.



5) Add foods as desired.

Suggested recipe:

500 ml liquid fish hydrolysate

750 ml liquid humic acid (TurfPro)

16 oz. soluble kelp powder (Acadian)

16 oz. brown rice powder, organic.

Or..., I have pre-measured microbial food packets available; please call.



Note: Many people remove teabag 8 – 12 hours after start of brew cycle. We think this is OK, extraction should be complete within this time period. GEOTEAs however, provide enough air supply where if you prefer to leave teabag in for entire cycle, that's OK too. Under many conditions, tea is "done" in about 24 hours.

Temperature of water and air, as well as elevation, recipes, water quality and likely many things as yet unknown may affect cycle maturity. Tea characteristics change as the hours go by. Bacteria, fungi, protozoa and others experience population fluctuations as tea matures. Monitor oxygen levels, test tea often. Best to have a microscope.

Note 2: GEOTEAs teabags are 40 mesh, which is also 400 microns. Many sprayers are set up with 50 mesh filters, which mean the filter has openings measuring about 297 microns. Clog potential. We recommend using large orifice sprayers that won't clog. If not, filter the tea or adjust sprayer system. (Please see our line of spraying equipment)

- 6) To remove Microbe Liberation Chamber, turn valve to “off”. Open Camlok Connector, place cap on bottom of Aerator Yoke to prevent contamination.



- 7) Unclamp Teabag. Empty spent compost. Rinse. Wash Teabag if necessary. Unclamp and clean all parts of Extractor Dome with gentle dishsoap or similar. Do same with all submerged parts at end of brew cycle. If desired, soak small parts and clamps in mild bleach solution to sanitize. Rinse well. Clean tank with mild soap and water with a sponge or similar. On occasion, remove blower inlet air filter and “swish” in warm, soapy water per manufacturer’s recommendation. Rinse, dry before use.

GUARANTEE

This GEOTEA compost tea brewer (not including tote) is guaranteed against defects in materials and workmanship for 30 days from date of receipt. Greater Earth Organics, LLC, manufacturer of GEOTEA brewers, does not warrant or imply quality of product manufactured using this brewer or advice either given or implied. As agronomic conditions, materials, practices and methods vary widely, and are beyond the control of Greater Earth Organics, LLC, Greater Earth Organics, LLC will accept no responsibility whatsoever for any commercial or personal damage, crop loss, or other effect due to the use or misuse of this product. The buyer agrees to accept these conditions at the point of sale.

NOTE ON TOTES...

Totes are available new from many suppliers for around \$300, plus shipping. Used totes are usually easy to find somewhat locally, be sure that they can be well cleaned. The tote must look like new to be good enough for tea making. Below are some photos on modifying the top of the tote to accept the GEOTEA machine. A wide open top is easiest to clean, but tea splashes out more during the brew cycle. My favorite is the “freeform” shape – it keeps splashing to a minimum and cleaning is fairly easy.

WIDE OPEN TOP



FREEFORM TOP



Top can be cut with a reciprocating saw, jigsaw, RotoZip tool, etc.