

Please first read *DIY Instant Compost Tea – Introduction and Starter for Farmers*
<https://tinyurl.com/mvecbpm2>

[**Note:** As a precaution we suggest to brew in an open space and/or use a face mask when inspecting during aeration. Not all soil fungi are human-friendly in high concentrations.]

Aerated brewing

Good natural soil biology needs oxygen, so aerated brewing is necessary to get the aerobic conditions for the right biology. An aerobic brew smells 'good', the sweet smell of good moist soil. Anaerobic biology does not need oxygen and smells like rotten eggs or ammonia and is often harmful. Check by smelling and dump anaerobic brew.

Brew quantities

Brews are applied at 100L/ha plus water for practical distribution. Trials used a 1,000-litre pod for a 1,000-litre brew, enough for 10 ha. For smaller or larger brews, adjust accordingly.

Equipment



Photo 1 - Overview



Photo 2 – Air spreader pipes

A 1,000-litre brew requires:

- Tank 1,000 L pod.
- Pipes 40 mm PVC pipe, two lengths (4m).
- To prepare the air spreader pipes, drill holes along both sides of the pipe, slightly below the longitudinal midline
- Fittings PVC 40 mm: T pieces (2), 90° elbows (5), and end caps (3) to suit the above design.
- Air pump with a large enough capacity to pump at least 1 L air/1 L water /minute,
- Control tap 40mm PVC between pump and aerator.
- A water pump to transfer the brew to another 1,000 pod to distribute the brew from a tractor e.g., a sump pump or 12V bilge pump (photo 3)
- A sieve to remove large particles and prevent blockages.

We recommend using a microscope to check for the presence of fungi and other biology.

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Aeration.

Enough air needs to be pumped to give 2 – 8 cm boil on the water surface – a very jumpy surface. An air pump suitable for a 1,000 L pod must produce at least 1,000 L/min (or 60 cubic m/hour). The air spreader pipes are positioned with the holes downwards and sideways to give agitation across the bottom and thus minimise anaerobic dead spots.

Feeding the biology

Multiplying biology requires food. The ingredients added during brewing, favour fungal growth, which is the part of the biology that builds soil structure and captures long-term carbon. Fungi needs the other biology as food to survive and grow.

Brewing

Mix into 1,000 L non-chlorinated water or rain water:

- 40 litre Starter
- 2 L Fish emulsion,
- 4 L Seaweed Liquid, and
- 2 L Sea minerals – see the article *Sea Minerals* at the above website.
- Brew for 24 hours in warm to hot conditions and 48 hours on cool to cold conditions.
- Assess development under a microscope.
- Apply within 3 - 4 hours after stopping aeration; biology starts dying without oxygen.

Note: There is a range of commercial compost tea brewers available - search for compost tea brewers.

Transferring to application tanks

Once the brew has been checked by microscope or smells good, let it settle for 5 – 10 minutes, then filter it while transferring to a distribution tank.

Use a low-pressure water pump with less than 70psi as higher pressures damage or kill the biology, for instance use a PTO pump, or a 12V bilge pump.

Prevent clogging up of nozzles by screening with a very fine sieve, for instance a midge proof fly screen or fine woven insect netting or a combination.



Photo 3 - Bilge pump (12V)



Photo 4 - Funnel with fiber flyscreen

Tips

Do not put the starter in a bag to keep the brew free from floating solids, unless, air is supplied directly into the bag. Otherwise, this may create anaerobic conditions. A free floating Starter dispersed throughout the brew is simpler and produces just as good a brew.

Experience has taught that cleaning the tank and equipment while wet is easier than later. Otherwise, the biology keeps working and “glues” itself to the equipment.

For Application and further information: <https://tinyurl.com/mvecbpm2>

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