



# BioComplete™ Liquid Amendments

## Lecture 6 – Making BioComplete™ Extracts and Teas (Part 1)



# Topics

## Definitions

**BioComplete™ Compost / Extracts / Teas,  
Leachates, Ferments, Manure Tea, Put-to-Sleep  
Teas**

## General Concepts

**Assurance of Success, Foods, Biomass levels,  
Diversity, Water Quality, Temperature, Aeration**

**Extracts - Massaging, Duration, Storage**

**Teas - Foods, Extraction, Aeration, Duration**

**Application – Pumps, Timing, Cleaning**

# Extraction

1. Basically three different ways to extract:
  - a. 5 to 10 gallon size hand-massage.
  - b. Extraction using air pumps to move water and extract organisms.
  - c. Auger to move BioComplete™ Compost upward while spraying with water.
2. Extraction of organisms from surfaces require 80 to 100 psi of moving water to overcome the glues and binding hyphae that hold them on those surfaces.
3. Avoid any situation where pressure will impact the organisms forcefully against a flat surface or corner.



# BioComplete™ Extraction: Hand-Massage

- Fill bucket ¾ full with warm water. Treat with humic acid.
- Place 1 to 2 pounds of BioComplete™ Compost in a bag with 400 micrometer opening size mesh. Submerge bag in the water.
- For 30 – 60 seconds, knead the BioComplete™ Compost in the bag, pressing water through the BioComplete™ Compost, then rinsing so water passes through the BioComplete™ Compost. DO NOT SCRUB. Rinse several times.
- Return spent BioComplete™ Compost to the compost pile.
- Hand massaging may require 2 or 3 rounds of massaging fresh BioComplete™ Compost until the extract contains the desired concentrations of bacterial, fungi, protozoa and nematodes.



# BioComplete™ Extraction: Hand-Massage

- BioComplete™ Extract prepared this way can be held for several hours in cool conditions.
- If aeration is added, extracts can typically be held for several days, although diversity decreases with time.
- Foods are not usually added to a BioComplete™ Extract until just before the extract is applied.
- Apply to soil (drench or injection) or apply to BioComplete™ Compost piles that need additional biology.



# BioComplete™ Extraction: Using a Brewer

- BioComplete™ Extracts can be produced using tea brewers.
- The first step when using a brewer to make a BioComplete™ Extract is:
  - Fill brewer  $\frac{3}{4}$  full with warm water. Treat with humic acid.
  - Initially, place 1 pound of BioComplete™ Compost in the compost bag (400 micrometer opening size) for each 20 gallons of water. Hang the compost bag as normal for tea making and use an aeration tube into the BioComplete™ Compost in the bag.
  - Run the brewer 30 minutes and check the concentration of organisms in the extract.
  - Return spent BioComplete™ Compost to the compost pile.
  - Repeat until extract reaches the minimum levels for each organism group.



# BioComplete™ Extraction: Using a Brewer

- BioComplete™ Extracts prepared in brewers can be held in the brewer for many days, as long as aeration is run every few hours. Because there are no added foods in a BioComplete™ Extract, and the foods extracted from the BioComplete™ Compost are usually minimal. The BioComplete™ Extract can be held for several days when conditions are cool.
- However, diversity will suffer with prolonged holding times.
- Foods can be added to the BioComplete™ Extract just before the extract is applied.
- Apply to soil (drench or injection) or apply to BioComplete™ Compost piles that need additional biology.

