



## Liquid Biological Amendment (LBA)

# Instant Extract Recipe

1. Place the first three ingredients into the BioExtractor™ Bag. For Maximum Extraction: use a brass twist nozzle and fill the tank by forcefully spraying water through the BioExtractor™ bag.
2. Once the tank is full, ensure that the bag hangs below the water surface and further extract the microbes into the water by squeezing/manipulating the bag for 5-10 minutes.
3. Add all other ingredients directly into the water, mix well, and apply immediately.

Application Rate: 1 Gallon of full strength extract per 5-10 square feet of soil surface area every 1 to 2 weeks. Dilute or water in as needed to ensure complete soil coverage.

<b><u>Measure By VOLUME</u></b>	<b>5 Gallon</b>	<b>50 Gallon</b>	<b>250 Gallon</b>
Biologic Systems™ <b>Worm Castings</b>	<b>¾ Cup</b>	<b>1.5 Quarts</b>	<b>6 Quarts</b>
Biologic Systems™ <b>Humus</b>	<b>¾ Cup</b>	<b>1.5 Quarts</b>	<b>6 Quarts</b>
<b>Insect Frass</b>	<b>¼ Cup</b>	<b>2 Cups</b>	<b>2 Quarts</b>
Biologic Systems™ <b>Fish Hydrolysate</b>	<b>½ Cup</b>	<b>1 Quart</b>	<b>4 Quarts</b>
Biologic Systems™ <b>Liquid Kelp</b>	<b>1 TBSP</b>	<b>½ Cup</b>	<b>2 Cups</b>
Biologic Systems™ <b>Liquid Humic Acid</b>	<b>¼ Cup</b>	<b>2 Cups</b>	<b>2 Quarts</b>
<b>Armory™</b> ( <i>Bacillus &amp; Streptomyces</i> )	<b>2 TBS</b>	<b>½ Cup</b>	<b>2 Cups</b>
Biologic Systems™ <b>Wettable Mycorrhizae Blend*</b>	<b>1/2 TSP</b>	<b>2 TBS</b>	<b>½ Cup</b>
<b>Nitryx™**</b>	<b>1/2 TSP</b>	<b>2 TBS</b>	<b>½ Cup</b>

NOTES: \* Use Mycorrhizae in vegetative growth and in the first 2 weeks of flowering growth only.

\*\* Use Nitrogen-fixing bacteria during vegetative plant growth only.



## Instant LBA vs Brewed Compost Tea

### *What Are Liquid Biological Amendments?*

At Biologic Systems, we prefer to use the term “Liquid Biological Amendment” (LBA), rather than “compost tea.” We no longer recommend that it is necessary to aerate or brew an LBA for an extended period of time. When working with tested inoculum-grade inputs that contain proven beneficial biology, a very potent “Instant LBA” can be achieved by simply liquefying and applying the products to plants *immediately* without allowing for brewing time. After conducting numerous side-by-side trials comparing a brewed LBA versus an Instant LBA, we have concluded that the brewing process is not necessary and that the focus should be on using quality input materials. Instant LBAs can be made for both root drench and foliar applications. Although some specific contexts still exist for aerobically brewing an LBA in large agricultural contexts, we feel the professional hobby gardener or small-scale farmer can achieve maximum results without this added process.

### *Instant LBAs may have many advantages over “brewed compost teas” including:*

- Time Savings – Instant LBAs can be made in a few minutes anytime on the fly.
- Eliminate the need for expensive air pumps, compost tea brewers, and tanks.
- Increase the odds of growing the “correct microorganisms” for your plant by allowing the reproduction of the organisms to occur in the soil and on plant surfaces rather than in a compost tea brewer. Extended brewing periods will select for organisms that can grow in water, which may or may not be the correct biology for your specific plant.
- The Instant LBA approach allows the grower to mix a highly concentrated LBA with no risk of it culturing anaerobic pathogenic organisms.
- Reduce anaerobic biofilm accumulation in tanks and hoses that is caused by exposure to highly active LBAs.