Biotic Earth is the original Biotic Soil Amendment (BSA), with an unsurpassed 10-year well documented track record of successful vegetation establishment and soil creation on projects throughout North America. Biotic Earth is hydraulically applied and is an excellent alternative to hauling in and spreading topsoil or compost, and offers significant savings over traditional equipment and labor intensive alternatives.

Incorporating sustainably harvested sphagnum peat moss as its main organic component (approximately 60%), Biotic Earth is also supplemented with beneficial bacteria, micro and macronutrients, straw and flax fibers, and precise amounts of mycorrhizae specifically selected for superior re-vegetation performance.

A major benefit of Biotic Earth is a completely weed free growing and soil building medium, perfect for applications requiring a specific plant mix, especially useful when native plant establishment is required.

There are a number of things to consider in any BSA application. Two very important considerations are the water holding capacity of the BSA and the product carbon to nitrogen ratio. Water holding capacity is simply the amount of water that can be retained for plant use. In growing vegetation, the goal is to maintain the soil at or near its water holding capacity. Because of the presence of sphagnum peat moss, Biotic Earth has an incredible water holding capacity. Biotic Earth’s test results for water holding capacity, ASTM D7367, is 1,020%.

All organic matter naturally contains carbon in combination with lesser amounts of nitrogen. The balance is described as the carbon to nitrogen ratio. For a greenhouse potting mix the ideal ratio is about 30:1 (carbon to nitrogen). In general, the lower carbon to nitrogen ratio (though not below 30:1) rather than a higher ratio is much better for vegetation growth. In BSAs with a high carbon to nitrogen ratio, typically in excess of 100:1, decomposition of organic matter slows down and so the release of nutrients into the soil for uptake by vegetation slows down as well. In stark contrast, sphagnum peat moss has a very low carbon to nitrogen ratio of 50:1 and does not compete with desired plants for nutrients.

For these reasons only sustainably harvested sphagnum peat moss is selected as the main organic component of our BSA - Biotic Earth.
**Biotic Earth requires only 40 gallons of water for every 50 lb bag.**

Earthbound Scientific® tackifier can be added to the Biotic Earth mixture in the hydroseeder hopper at the following per bag rates:

<table>
<thead>
<tr>
<th>Slope Gradient H:V</th>
<th>Earthbound® Recommended Application Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 6:1</td>
<td>Earthbound Scientific® 0.5 lb/bag</td>
</tr>
<tr>
<td>&gt; 6:1 - &lt; 3:1</td>
<td>Earthbound Scientific® 0.5 lb/bag</td>
</tr>
<tr>
<td>≥ 3:1 - ≤ 2:1 or other highly erosive conditions</td>
<td>Earthbound Scientific® 1 lb/bag</td>
</tr>
<tr>
<td>&gt; 2:1</td>
<td>Earthbound Scientific® 1 lb/bag</td>
</tr>
</tbody>
</table>

Biotic Earth has been developed after multiple years of research and field testing in varied climates that test the definition of extreme. Creating soil over time is a process. Vegetation germination and density can be accelerated with many conventional practices that negatively impact the long term sustainability of restoration goals. Using long term desired outcomes as the measure of success Biotic Earth has been formulated to deliver the necessary ingredients for optimal results.

Using Biotic Earth on your project site is remarkably easy by adding it directly to a hydroseeder with water, any required soil amendments or tackifiers, along with the selected seed. The resulting slurry is simply hydraulically applied over sites with little or no organics present. The results are consistent at establishing vegetation on a wide variety of sites. Project case studies go back ten years and consistently demonstrate the effectiveness and cost savings of Biotic Earth over traditional methods. Customers in the hydroseeding industry agree, “Biotic Earth is remarkably easy to shoot” and reinforces the research that this product applies evenly and consistently without plugging. Biotic Earth requires much less water as compared to similar hydraulically applied products allowing for faster installation, fewer tank loads, and can be a significant benefit where water sources are not convenient to the project site.

Close out your project faster and save money using Biotic Earth.
Biotic Soil Amendments (BSAs) are used to establish a rhizosphere where vegetation can be sustained as an alternative to the cost of topsoil or compost, if available. Beneficial nitrogen fixing bacteria work in conjunction with the mycorrhizae to provide plants with necessary resources to develop the soil over time and create a sustainable nutrient cycling environment necessary for complete restoration. Straw and flax fibers not only provide an interconnecting matrix material reducing erosion, the fiber is also an initial food source for the microbial colonies to regenerate during initial plant establishment and eventual decay, completing the nutrient cycle, restoring soils and sustainably reclaiming the area.

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