

## Benefits of Biofertilizers

There are many benefits to using this safe and relatively inexpensive product. It produces a healthier crop and promotes subsistence farming.

- Biofertilizers are an environmentally friendly substitute for harmful chemical fertilizers .
- They transform organic matter into nutrients that can be used to make plants healthy and productive.
- They can increase the output of food to be used for school lunches.
- They have a low production cost because they make use of leftover vegetables and easily obtained organic

Using biofertilizers benefits both the environment and its practitioners. You too can save money, increase crop output, and help the environment by switching to biofertilizers today!



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Refer to the Biofertilizers Video  
for more Information.



## Biofertilizers



## Why Biofertilizers?

The natural products laying around farms can be turned into **biofertilizers** and used to make healthy and abundant crops. Teaching farmers how to use biofertilizers will instill self-reliance into their daily lives.

This type of fertilizer eliminates the use of harmful chemicals. Instead, it acts as a biological steroid that is still gentle on the environment and available for a fraction of the price. One student even commented:

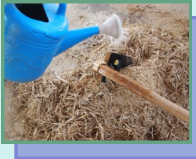
*“Biofertilizers can reduce my family’s expenses by replacing the cost of chemical fertilizers” -Benya P.*

**Biofertilizers** are made from easily obtained organic materials such as rice husks, soil, bamboo, and vegetables that can be found in even the most remote areas of Asia.

Making **biofertilizers** is an exciting and practical way for students to learn about biology and chemistry. By following these 10 simple steps, it can easily be adapted to your school’s curriculum too!



## 10 Simple Steps to Making Biofertilizers in Five Months

<p>Step 1 (Day 1)</p> 	<p><b>Prepare</b> the ingredients:</p> <ul style="list-style-type: none"> <li>• <b>1 kg</b> of bamboo leaves</li> <li>• <b>5 kg</b> of husk</li> <li>• <b>2 kg</b> of barn</li> <li>• <b>1 kg</b> of undisturbed soil collected from <b>5 cm</b> under the surface near a tree</li> </ul>
<p>Step 2 (Day 1)</p>	<p><b>Mix</b> the ingredients on the ground for approximately 30 minutes or until the mixture is consistent.</p> <p><b>Add</b> water while mixing to moisten the blend.</p> 
<p>Step 3 (Day 1)</p> 	<p><b>Move</b> the mixture into a shallow bucket with a 50 cm diameter.</p> <p><b>Distribute</b> the mixture in the bucket and <b>create</b> a depression in the center to promote heat ventilation.</p>
<p>Step 4 (Day 1-31)</p>	<p><b>Cover</b> the bucket and move it to a shady area to create a dried sample.</p> <p><b>Mix every 4 days</b> for a period of 30 days to maintain consistency.</p>
<p>Step 5 (Day 31)</p>	<p><b>Place</b> the dried sample from Step 4 into a net bag once a layer of <b>white hypha</b> has formed on the top of it.</p>
<p>Step 6 (Day 31)</p> 	<p><b>Making the liquid micro-organisms:</b></p> <ul style="list-style-type: none"> <li>• <b>Prepare</b> 75 L of clean water in a 100 L barrel.</li> <li>• <b>Add</b> 15 kg of brown sugar or 15 L of molasses.</li> <li>• <b>Add</b> the 0.5 kg net bag from Step 5.</li> <li>• <b>Stir in one direction</b> for around 10 minutes, or until evenly mixed.</li> </ul>
<p>Step 7 (Day 31-61)</p>	<p><b>Seal</b> the barrel tightly and leave it alone. This allows the mixture to ferment and form a liquid called micro-organisms. After <b>30 days</b>, a white layer will form.</p>
<p>Step 8 (Day 61)</p> 	<p><b>Prepare</b> the following ingredients to <b>make biofertilizers:</b></p> <ul style="list-style-type: none"> <li>• 1 part micro-organism that was prepared in Step 7</li> <li>• 1 part sugar or molasses</li> <li>• 10 parts water</li> <li>• 100 L barrel that is 1/3 full of chopped leftover vegetables, herbs or fruits</li> </ul>
<p>Step 9 (Day 61-76)</p>	<p><b>Make the biofertilizers:</b></p> <ul style="list-style-type: none"> <li>• <b>Mix</b> the water, sugar or molasses, and micro-organism together.</li> <li>• <b>Add</b> the chopped vegetables and continue to stir.</li> <li>• <b>Tightly seal</b> the barrel and let it sit for approximately <b>15 days</b>.</li> </ul>
<p>Step 10 (Day 76)</p>	<p><b>Dilute</b> 30mL with 20L of water.</p> <p><b>Spray</b> the biofertilizers on the root of the plants to enhance their growth.</p>

