



# What is Bokashi?

Ask a master gardener and you will most likely get a questioning stare. Even though this method of treating food waste and feeding nutrients to the soil for your plants is so well known and established world-wide, in the US most master gardeners have never heard of it. Why not?

They are very familiar with composting and will advise you on how to make your compost bin work. But they know little about the “acidic” anaerobic fermentation process that breaks organic waste material down into nutrients that soil microbes then rapidly convert to rich nutrients for plants.

The master gardeners are only allowed to talk about processes they have learned about in their courses on master gardening. They take their training from experts linked to universities and colleges that have established a master gardener curriculum. They are certified. But if the curriculum is traditional, or not brought up to date, a master gardener just doesn't get that part of the education.

Most “experts” in the agricultural departments and soil programs in the US are simply unfamiliar with this process. They may have heard about it, but they have been too busy to investigate or document its value. That is sadly why it takes so long for new, even superior technologies to come to the front. “Experts” are frequently too busy to investigate.

Why haven't more scientists investigated this method? It is a puzzle. However if you carefully review the history and literature around bokashi methods, you will see it has never until more recently gotten much attention. Go to [www.teraganix.com](http://www.teraganix.com) for the story of Dr. Teruo Higa and his creation of EM-1.

It has been a method passed on from generation to generation by non-scientific individuals and farmers outside the US who applied their knowledge to improve soils and plants but didn't publish or run control studies in their countries. Enthusiastic amateurs have spread the word. It does work! And it is simple.

Simply stated, the term *bokashi* means (in Japanese) “fermented organic matter”. It is a little known form of composting and 10 times faster. It involves the use of essential microbes to break down organic matter under specific conditions.

There are 2 methods for using bokashi in composting. One is bokashi processing that involves fermenting (pickling of the organic material) in a closed container and then feeding that fermented product to microbes in the soil. It is a method of pre-treating the waste material so it can then be rapidly taken up by soil microbes. With bokashi processing you exclude oxygen. The fermented organic matter does not get turned and is left alone. It is fast because the microbes are highly specialized and use enzymes to degrade the organic matter quickly.

The other bokashi method is simply to add dry bokashi to your compost pile, and allow it to cold compost anaerobically. This method is much quicker than regular cold composting, as the microbes devour the food and green waste leaving nutrient-rich humus.

An important difference between these two methods of treating waste material, hot composting versus bokashi composting, is microbial populations at the end of the process. Bokashi composting results in a

rapid increase and restoration of soil microbes that are needed to feed plants. Hot composting results in a depleted number of microbes.

Both methods take the organic matter being processed back to the soil. However, the hot composting process wastes a lot of this matter sending it into the atmosphere as carbon dioxide. Bokashi composting puts virtually 100 percent of the carbon back to the soil along with all of the other nutrients that are then fed to soil microbes. The mass of material returned to the soil is nearly double that of hot composting.

In the fermentation process, oxygen is excluded and waste material is allowed to rapidly be broken down to processed waste that is then fed to the soil microbes. The processed waste takes 2-4 weeks for the soil microbes to finish it up leaving a soil rich in nutrients and *microbes*. You have simply restored microbial diversity and populations to the soil and put virtually 100% of the organic matter to good use.

Here is another plus for bokashi fermenting/composting. You can process virtually any kind of organic waste material with the microbes in the bokashi system. Dairy, meat, fish, bones, fats, fruits and vegetables are all easily processed in a bokashi system. The odors, flies, rats, and animal attraction to garbage rotting is eliminated. If you have odors or flies, you are not using enough bokashi or do not have an airtight system.

	Composting	Bokashi Cycle
Decomposition Time	~ 6 months	~ 20 days
Waste (Biomass) limits	No dairy, fats, meat	None
Release gases to atmosphere	CO <sub>2</sub> , NH <sub>3</sub> , CH <sub>4</sub>	None
Requires Energy Tending	Yes	No
Nutrient value end product to plants	Moderate	High
Contributes to global warming	Yes	No
Simple to implement and maintain	No	Yes
Attracts pests	Yes	No
Reduce Landfill biomass	Yes	Yes

You will learn that it is just as easy to process your food waste material in a container as it is in the garden. And you can have wonderful plants feeding off of this material without smelly soil or garbage. You can also ferment your yard waste and get the weeds and grass waste converted rapidly to soil in a matter of a couple of weeks. You'll no longer have to send it off to the curbside where it is then carried away to oxidize. Wouldn't you rather keep those nutrients at home instead of letting them out of site be oxidized?

Bokashi is produced by the Great Falls Community Food Bank in partnership with Gardens From Garbage.

Contact and purchase information on our website: [www.gardensfromgarbage.org](http://www.gardensfromgarbage.org)