



New Start Community Garden
Garden Curriculum

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NEW START COMMUNITY GARDEN

GARDEN CURRICULUM

The purpose of this curriculum is to provide educational materials to support student and community visitors to the New Start Community Garden, aka the Shark Garden. It is designed for ages 10 and up and many lessons and activities can be used at home as well as in the garden. Our goal is to create inclusive curriculum that encourages sustainable organic gardening, environmental stewardship, and multicultural appreciation for food. For more information about the Shark Garden, contact info@sharkgarden.org

Table of Contents

Bokashi Composting Pages 4-7

- Bokashi: The Seven Step Process
- Bokashi Quiz
- Source Page



Bokashi Composting

Bokashi is a Japanese word meaning "fermented organic matter."

Developed in the early 1980s by Dr. Teuro Higa, a professor at the University of Ryukyus, Okinawa, Japan, the method involves layering kitchen scraps (vegetables and fruits, as well as meat and dairy scraps) with a Bokashi inoculant in a special bucket.

Usually, the inoculant consists of either wheat germ, wheat bran, or sawdust combined with molasses and effective microorganisms (EM). The bran/molasses serves as the food for the microorganisms, which are the same natural microorganisms found in soil. Bokashi bran, a mix of bacteria and yeast, breaks down food with very little odor (smells a bit like pickles) and doesn't create harmful emissions. Meat, cooked foods and dairy can be processed in a bokashi bucket and kill off pathogens and weed seeds due to its high acidity. The fermenting process also creates a leachate or liquid of beneficial bacteria that can be poured down the drain to prevent blockages, used to prevent algae or diluted to use as fertilizer.

You can make your own system or buy complete Bokashi composting kits online, from garden stores, or natural living retailers, which also sell the replenishment products, including the effective microorganisms and bran/molasses.



Bokashi-The Seven Step Process

Step 1: Make or Acquire a Bin

Bokashi requires an airtight container because it is an anaerobic process. You can either purchase a commercial bokashi container or make one using a 5-gallon bucket with a tight fitting lid and adding a spigot at the bottom to control drainage.



Step 2: Make or buy bokashi bran.

Bran is a continuous cost in bokashi fermentation that adds up over time. For those who wish to cut down the cost, research recipes for DIY bokashi bran online. The main components are wheat or rice bran, water, EM (effective microorganisms) and molasses. Lactobacillus bacteria (probiotics), a key component in bokashi bran, can be cultured at home and used as a substitute for EM. For those in more rural areas, you may also be able to make your own bran using manures.



Step 3: Chop your scraps (optional, but recommended).

This increases the surface area available to the bacteria for faster fermentation.



Step 4: Put food scraps and bran in the container.

Many commercial bran brands recommend a handful of bran per 2 to 3 inches of food scraps. If your container has a spigot (rather than drainage holes), you can layer some bran at the bottom before putting in scraps. The general rule is that there is no such thing as too much bran.

Step 5: Compact the mixture to remove as much air as possible and close the lid.

You can use a dinner plate or piece of cardboard to help compact the contents. A plate is also a good way to weigh down the contents while they ferment.

When the bin starts getting full or you want to use your bokashi, stop adding material.



Step 6: Drain the liquid every two to three days.

Bokashi tea, juice or leachate is the liquid that can be tapped from your bokashi kitchen composter. It contains a mixture of all the goodness from your bokashi kitchen composter; bokashi microbes, liquids from the food scraps and liquids produced during the fermentation process. The leachate is full of beneficial bacteria that can be poured down the drain to prevent blockages, used to prevent algae or diluted to use as a fertilizer. For fertilizer, the recommended ratio is 1:100 bokashi leachate to water. Use dilution within 24 hours.



Step 7: Harvest

Once the bin is full, wait 2 weeks and then harvest. Bokashi product cannot be added directly to plants because of its high acidity. You can bury bokashi product 8 to 12 inches deep in soil away from existing plants to prepare soil for planting after one to two weeks.

Bokashi Quiz

Purpose

The purpose of this quiz is to test student's knowledge after learning all about the Bokashi process so the information can be retained and remembering for future practice!

Estimated Time: 30 Minutes to 1 Hour for Discussion
Answers are Highlighted in Yellow



Question 1:

Where should you store your Bokashi Bin?

- A. On soil with good drainage
- B. Somewhere shady and cool**
- C. Somewhere that gets plenty of fresh air

Question 2:

Which type of food scraps are not allowed in a Bokashi bin?

- A. Large bones**
- B. Citrus fruits
- C. Meat
- D. Garden waste

Question 3:

What should you do when adding scraps to a bokashi bin?

- A. Stir and mix the old and new scraps
- B. Squash the scraps down as much as possible**
- C. Make sure the lid is positioned to let air in
- D. All of the above

Question 4:

How often should you drain off the bokashi juice from the tap?

- A. Every Few Days**
- B. Once every Two Weeks
- C. Once a Month
- D. None of the Above

Question 5:

What should you do with the fermented solids when the bin is full?

- A. Bury them in soil
- B. Add them to outdoor compost bin
- C. Bury them in a large pot of soil
- D. Locate an available compost bin
- E. Any of the above**

Sources

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