

GBS Health & Wellness

# DIY Probiotics Guide



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## Homemade Probiotic Foods for a Healthy Gut

Getting the gut into gear can start right in the heart of one's home, the kitchen! Instead of stocking the medicine cabinet with costly and often unreliable probiotic supplements, consider freeing up the fridge for fermented food sources that can get that gut grooving. Incorporating more pre- and probiotic foods into the diet can provide wide ranging impacts on overall health to support a better functioning body and mind. Use this guide to learn how to prepare different probiotic sources from your own kitchen with ease, fun and low financial burden. Save a little cash, learn a new cooking skill, make it a social activity with others and have health benefiting foods at your fingertips all within the comfort of your own home. Explore these options below and find a fermented food, or two, that keeps you healthy and happy!



### DIY Kombucha

Yields ~12 Servings [8 oz.]

#### Ingredients

- 1 cup evaporated cane juice sugar **OR** ½ cup of natural, maple syrup
- 8 Earl Grey **OR** green tea bags
- 4 cups filtered water
- 1 SCOBY (obtain from the store or a friend who has already been brewing kombucha)
- 2 cups plain, starter kombucha
- 1 ½ cups of juice, not made from concentrate **OR** 1.5 cup of fresh, blended fruit

#### Kitchen Items

- 1-gallon glass jar
- pH testing kit
- Thermometer
- Cheesecloth & rubber band for covering
- Funnel
- Six, 16 oz glass bottles or sealable jars

### Directions

1. **Brew the Tea:** Bring 4 cups of water to a boil and pour into a large measuring cup. Add the 8 teabags and sugar or maple syrup to the measuring cup. Allow to steep for ~6 minutes and check the temperature to ensure it is in the range of 68-88°F. Stir the tea until the sugar has dissolved, remove the teabags and pour the mixture into a gallon sized jar. Fill the jar with cold filtered water until the liquid line reaches 3 inches from the top.



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## Directions [*continued*]

- 2. Bring in the SCOBY:** Add in the kombucha starter and SCOBY. Stir the mixture a few times and test the pH level with test strips to ensure the level is 4.5 or below. If it is not, add 1 TBSP of white vinegar, stir the mixture and test again.
- 3. Let it Be:** Cover the jar with cheesecloth and secure with a rubber band. Keep the jar in the pantry or another room temperature location, out of direct sunlight and with plenty of airflow. Allow for this to sit for 7 days.
- 4. Test & Taste:** After 7 days, there should be new growth on the SCOBY. Take a straw and sip the kombucha to test for doneness. If the mixture is overly sweet, allow the kombucha to sit for longer. If the mixture is too tart, adjust the sweetness level when bottling and adding the flavoring. Test the pH of the kombucha with another pH strip to ensure it is in the 2.5-3.5 pH range. Note that brewing time may take 7-21 days depending on the temperature of the environment.
- 5. Bottling:** Reserve 2 cups of the freshly brewed kombucha to be used for future batches. Fill all bottles or jars with  $\frac{1}{4}$  cup juice and flavors of choice with the funnel, then fill each bottle with the brewed kombucha until the liquid line reaches 1 inch from the top. Flavoring can alternatively be done with fresh fruit by blending fruit and adding to the jars of unflavored kombucha. Seal each bottle or jar and allow the kombucha mixture to sit in a dark location like the pantry to let the last bit of fermentation to take place. After 1 day of fermenting the kombucha is safe to drink, the bottles can be transferred to the refrigerator, and the kombucha can be stored for 1 month. Serve cold and over ice if preferable. Enjoy!

## Notes

- **Getting Started:** If this process seems overwhelming or you are not sure where to find the right equipment to get started, consider ordering a Kombucha Starter Kit from Amazon or the few items you may not have on hand such as pH strip and a thermometer. Once you have these items you can brew batch after batch with the same essential items, saving costs in the long run.
- **Flavoring:** When using fresh fruit to flavor the kombucha, place all ingredients in a blender and blend until liquified. Evenly distribute the blended fruit amongst the jars and then fill the bottles with the homemade unflavored kombucha. Blend Examples: Mango Ginger Kombucha-  $\frac{1}{2}$  cup mango chunks + 1.5 tsp grated ginger \*\*fills two, 16 oz bottles. Pineapple Strawberry Kombucha-  $\frac{1}{2}$  cup pineapple chunks +  $\frac{1}{4}$  cup of sliced strawberries \*\*fills three, 16 oz bottles. Explore other flavors that meet your taste buds at <https://www.liveeatlearn.com/best-kombucha-flavors/>
- **Safety:** Pregnancy may not be the best time to start or be regularly drinking kombucha. Always consult with a physician. Mix a few tablespoons of kombucha with water to reap its possible GI tract benefits, while reducing concern for the bacteria and small amount of alcohol content.

Recipe adapted from [kombuchakamp.com](http://kombuchakamp.com) and [shutterbean.com](http://shutterbean.com)



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## DIY Kimchi

Total Time: ~40 Hours | Yields 6-8 Cups

*Dairy-Free, Vegan & Gluten Friendly*

### Ingredients

- 1, ~2 lbs Napa cabbage, cut into 2-inch pieces
- 1 daikon radish, peeled and cut into 2-inch matchsticks or ½ cup grated
- 3 medium carrots, cut into 1-inch matchsticks or ½ cup grated
- 4 green onions, cut into 1-inch pieces
- ¼ cup pink Himalayan salt
- 6 cups of water
- 6 cloves of garlic, minced
- 1-inch fresh ginger, peeled and minced
- 2 tsp crushed red pepper OR 1 TBSP of each- cayenne pepper & smoked paprika

### Directions

1. **Prep the Veggies:** In a very large bowl or pot add the cabbage. Combine the salt with 2 cups of lukewarm water in a medium bowl and stir to dissolve. Pour the salt water over the cabbage and add the remaining 4 cups of water. Mix everything together thoroughly. Place a heavier plate or circular baking dish over the cabbage to hold it down and keep it completely submerged. Cover the bowl with a towel and let the cabbage sit for 2-4 hours.
2. **Stir up the Seasonings:** In a separate bowl, combine the garlic, ginger and crushed red pepper OR cayenne pepper and paprika.
3. **Mix it Up:** Once the cabbage has soaked, drain the saltwater brine and reserve it in a separate bowl. Rinse the cabbage well and place back in the original large bowl. Combine the seasonings mixture, daikon radish, carrots and green onions into this bowl. Mix well to coat everything evenly using hands or tongs.
4. **Packing:** Pack the kimchi into glass jars or airtight containers with lids. Pack down tightly to close any air pockets using a wooden spoon/pounder or pestle. Leave about an inch at the top for air and gases to collect. Top the jars with the remaining juices or add the reserve brine if needed to cover the veggies.
5. **Fermenting:** Place the jars on a plate to catch any liquid that may escape. Then allow the kimchi to sit at room temperature in a cool place like the pantry for 24-36 hours. After 24 hours open the kimchi and pack the mixture down with a spoon. Bubbling may be occurring, which is normal as the kimchi is at work fermenting. As the kimchi ferments its flavor will strengthen. Taste every 24 hours and put the kimchi in the fridge once this meets your taste bud's preferences to stop the fermentation process. I suggest allowing it to ferment in the pantry for up to 3 days maximum, typically it will be ready after 36-48 hours. The kimchi should be tangy and a bit spicy once it is ready.





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## Directions [*continued*]

6. **Store:** Move the kimchi to the fridge and use within a month. Enjoy!

## Notes

- **Salt:** Use salt that is free of iodine and anti-caking agents, as this can prevent the fermentation process from occurring. I suggest using Celtic Sea Salt, Pink Himalayan Salt, or other unrefined mineral salts.
- **Water:** Water with high levels of chlorine may inhibit fermentation. When possible, use spring, distilled or filtered water.
- **Optional add ins:**  $\frac{3}{4}$  of a fuji apple for added sweetness, 1-2 TBSP sesame seeds for added texture.
- **Other considerations:**
  - The weather can influence how fast or slow your mixture will ferment. Hotter temperatures can cause the fermentation process to speed up, while cooler weather will slow it down. Simply be mindful that this may shorten or delay the time needed to ferment.
  - If you do not have glass jars, plastic containers with airtight lids work just as well. If the container has too much room or more than an inch from the top of the kimchi to the lid, place a piece of plastic wrap over the top sinking into the kimchi to remove air and then cover with the lid. Excess air will not allow fermentation to result.

Recipe adapted from [simple-veganista.com](http://simple-veganista.com) and [zerowastechef.com](http://zerowastechef.com)



## DIY Kefir

Total Time: ~24 Hours | Yields 2 Servings [8 oz.]

*Gluten Friendly*

### Ingredients

- 2 TBSP kefir grains
- 2 cups milk of choice

### Kitchen Items

- 2 glass mason jars with lid or cheese cloth + rubber band
- Small, mesh strainer

## Directions

1. **Mix:** Add 2 TBSP of kefir grains to a glass jar and mix in 2 cups of milk, stirring with a wooden spoon.
2. **Ferment:** Cover the jar and allow it to ferment in a warm spot, out of direct sunlight for 12-48 hours. The kefir will be done fermenting when the whey has separated and collects at the bottom of the jar as a clear, yellow liquid.



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## Directions [continued]

- 3. Strain:** Pour the kefir through a small strainer placed over another clean jar. The kefir grains will collect in the strainer, while the liquid will collect in the new jar. The fresh kefir in the jar can then be placed in the refrigerator to enjoy, while the grains can be saved and used again with fresh milk to create a new batch of kefir.

## Notes

- **Storing the kefir grains:** Keep leftover kefir grains covered with a little bit of the prepared kefir liquid in the fridge until ready to prepare the next batch. If you prefer to continuously make kefir, making only what be drank in 1-2 days, then the kefir grains do not needed to be stored in the fridge.
- **Using Kefir:** Kefir has an optimal taste when chilled. Though it can be consumed plain, there are other ways to use it in combination with other ingredients to make it less tart. Make a smoothie with it blending together frozen berries, banana and spinach. Mix maple syrup or honey and a dash of cinnamon into the kefir to add some sweetness. Top it with homemade granola, nuts, seeds, spices and/or fruit for a balanced breakfast.

Recipe adapted from [diynatural.com](http://diynatural.com)



## DIY Red Miso Paste

Yields 1 Gallon

*Dairy & Soy-Free*

### Ingredients

- 12 ½ cups dry garbanzo beans
- 6 ½ cups koji
- 3 ¼ cups pink Himalayan or Celtic sea salt
- 2 ¾ cups bean liquid
- 6 TBSP unpasteurized miso
- ¼ cup pink Himalayan or Celtic sea salt for top layer

### Kitchen Items

- 1-gallon wide mouth jar + lid
- Cheese cloth + rubber band to cover the top
- Flat, non-metallic disc
- Small weight like a scrubbed rock or paper weight

## Directions

- 1. Prepping the Beans:** Place the garbanzo beans in a pot, cover with filtered water, and soak overnight. Cook the garbanzo beans on the stove ~5 minute until the beans are soft, then strain the beans using a colander and collect the liquid in a bowl to save the bean liquid for later use. Allow the beans to drain in a colander for a few minutes, then add to a large bowl and allow to cool until they are warm. Once warm mash the beans by hand or with a potato masher to create a smooth paste. A food processor may be used for ease as well.



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## Directions [*continued*]

- Mixing the Brine:** While the beans cool, dissolve the salt into the hot bean liquid to create a brine. Mix the unpasteurized miso paste into the salt brine and combine this mixture with the koji.
- Combine Together:** Add the brine/koji mixture into the large bowl with the chickpea mash. If needed, add more of the reserved bean cooking liquid to create a thicker consistency with the paste.
- Pack:** This process can be started while the beans cool- Dip clean hands in filtered water and allow water to run down the inside of the jar to lightly wet the sides. Place some salt inside the jar, put the lid on and shake to coat all sides plus the bottom of the jar. Once all ingredients have been combined, pack the miso into the jar with clean hands and press down firmly to remove any air. Pack the jar until 1 inch remains at the top, spread a layer of salt over the top of the miso paste, and place a clean, flat non-metallic object over the salt layer and then add a heavy weight like a scrubbed rock or paper weight. Cover the glass jar with a cheese cloth and a rubber band to secure it.
- Ferment:** Store the packed miso in a cool, dark place like a pantry or basement cellar for 1 year. Ex: If you pack this in the early spring, unpack this the next spring and use. Miso is best fermented when it goes through one summer season of fermentation due to warmer temperatures allowing the lactic acid bacteria to become more active.
- Taste Test:** A developed “red” miso will have a rich pleasant aroma and a darker color compared to when it was originally packed. Allow the miso to ferment longer if the flavor is too salty, the texture is too soft, or the color is too light.
- Decanting the Aged Miso:** Open the jar and remove the disk and/or weighted object. The top layer often is not very attractive looking, and some spots of mold may have developed here. Do not be concerned, but simply discard the top layer and remove any possible mold that has formed on the edges of the jar. Scrap off about ½ inch to reveal a nice-looking cultured miso below. This should have a paste-like consistency and a rich aroma; it should not look off-putting or slimy. Remove the paste, place it in a large bowl, and mix thoroughly to evenly distribute the salt content. Finally, place the miso paste in glass jars with plastic lids and store in the fridge. Enjoy your first batch of homemade miso!

## Notes

- **Tips for Making Multiple Batches:** Make 2 gallons and wait one year. Decant these first 2 gallons of miso paste as outlined above, then start the next 2 gallons immediately after you have decanted the previous batch.
- **How to Use it:** A little bit goes a long way. Make miso the base of marinades, dressings, sauces, or use as a replacement for salt in many recipes. Avoid heating miso to maintain the probiotic microorganisms in order to gain the gut health benefits of these helpful bacteria.

Recipe adapted from [superfoodevolution.com](http://superfoodevolution.com)

