

# The Essentialist

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## Yogurt & Kefir: Lacto-Fermented Milk

While both are healthful probiotic foods cultured from milk, there are differences:

- Yogurt is a thermophillic culture thriving in warm temperatures (110 - 116°F); it works best with pasteurized milk because it doesn't like competing bacteria. Kefir is a mesophillic culture thriving at moderate temperatures (65-76°F), and works well with raw milk.
- While both make lactic acid, the molecules in yogurt are the mirror-image of those in kefir, and so have different beneficial properties in the body. Besides lactic acid, kefir also makes other organic acids, CO<sub>2</sub>, and alcohol, which give it a light fizz.
- Yogurt must contain *S. Thermophilus* and *L. Bulgaricus*. Other bacteria may be added for health-promoting abilities: *bifidus* species such as *B. longum* are important for colon health; *lactobacillus* such as *L. acidophilus* are important for the small intestine. Yogurt helps to keep the intestines clean and provides food for your native friendly gut bacteria, but will not colonize in your gut.
- A working colony of up to 42 different species of bacteria and yeasts, kefir may help recolonize your gut with probiotics, and its yeasts help to combat candida.
- Kefir's smaller curd size than yogurt is easier to digest, ideal for infants and the sickroom.

### Notes about Ingredients

- **Milk:** Always pre-heat pasteurized milk to 180°F, to kill competing bacteria. For yogurt, raw milk must also be preheated to kill competition. For kefir, raw milk does not have to be preheated. I use pasteurized **Lifeline brand whole or reduced fat milk** (from Victor MT), or **raw milk**. **DO NOT USE ultra-pasteurized**, as they will not culture properly.  
You can use either goat's or cow's milk. Goat's milk yogurt is thinner than cow's milk yogurt. Some say you can use rice, soy or nut milk, but I've never tried these.
- **Yogurt starter:** the best starter is commercial plain yogurt (I use **Nancy's whole milk yogurt**). You can also use a bit of your own yogurt from a previous batch, but this is good only for about 3 batches, as it gets degraded by competing bacteria. Or you can use freeze-dried yogurt culture. See last page for sources.
- **Kefir starter:** Ideally you use kefir grains, a live kefir colony that resembles cauliflower. It lasts indefinitely, but a drawback is that it is very fussy, requiring daily attention. It's far easier to use freeze-dried kefir culture, but it produces a slightly different product. Some powder brands cannot be re-used; others can be re-used for several batches. I use **Body Ecology powdered starter** (reuse 6 - 7 times); see last page for sources.

## Yogurt Recipe

### **Culturing temperature: 110 - 116° F**

You need a warm culturing space: oven or cupboard (with a light for warmth), dehydrator (experiment with light wattage), or yogurt-maker. [The culturing environment should be 95° or so; the bacteria produce some heat, to reach the desired culturing temperature.

CAUTION: Do NOT use homogenized or ultra pasteurized milk.

#### **Ingredients & Equipment:**

- 4 cups whole or reduced fat milk
- 2 Tbsp plain, unsweetened yogurt or 1 packet freeze dried yogurt starter.
- 1 - 3 tsp raw honey or maple syrup (optional)

#### **Equipment:**

- 1 1/2 or 2 quart stainless steel pot
- milk thermometer (0 - 220°F)
- quart wide-mouth jar, with lid
- warm culturing space (see above)
- water bath (optional)

#### **Process:**

- **Pre-Heat:** Heat in stainless steel pot to 180°F, then cool slowly to 115°.
- **Add Starter:** Avoid the temptation to use too much (yogurt bacteria don't like crowds).
  - \* **Yogurt as starter:** Add 1/4 cup of the warm milk to yogurt in a 1-cup measure; stir 'til combined. Add back to warm milk in the pot and stir.
  - \* **Freeze dried yogurt starter:** Add powdered starter to about 1 cup of warm milk in a 2-cup measure; stir to dissolve. Add back to remaining warm milk and stir.
- **Culturing:**
  - \* **Yogurt maker:** pour into the container, cover and culture, following instructions.
  - \* **Oven, cupboard or dehydrator:** About 95°F. Pour warm mixture into jar, screw on lid and culture in selected warm space. Optional: set jar in a warm water bath to help maintain temperature (optional), and avoid drafts.
  - \* **Culture** about 6 - 8 hours or overnight. The longer it cultures, the greater the chance the whey will separate. Resist temptation to jostle or stir it while it is culturing, or the whey will separate early.
  - \* If **whey** has separated, either whisk it back together, or strain it off through a very fine sieve. I recommend blending the whey back in, as it is a very health-giving protein. If strained, the remaining yogurt has a cream-cheese-like quality, and the whey can be used to make other lacto-fermented beverages, pickles, chutneys, or vegetables.
- **Sweeten** (optional): Add honey or maple syrup to taste after culturing.
- **Chill:** Transfer to refrigerator, and keep chilled.
- **Reusing Starter:** Reserve a few tablespoons (2 - 4) of yogurt from each batch, to make the next quart of yogurt (up to three times). However, it's best to reserve it BEFORE sweetening.

## Yogurt Troubleshooting

Refer to the following websites for help if you have trouble with your yogurt:

- Mother Linda ([www.westonaprice.org/food-features/heat-or-not-heat-yogurt](http://www.westonaprice.org/food-features/heat-or-not-heat-yogurt))
- Making Yogurt at Home (from the Univ. Nebraska Extension)--scroll to bottom ([www.ianrpubs.unl.edu/epublic/pages/publicationD.jsp?publicationId=525](http://www.ianrpubs.unl.edu/epublic/pages/publicationD.jsp?publicationId=525))
- Mother Earth News -- scroll to Troubleshooting section ([www.motherearthnews.com/Whole-Foods-and-Cooking/1980-03-01/Make-Your-Own-Yogurt.aspx](http://www.motherearthnews.com/Whole-Foods-and-Cooking/1980-03-01/Make-Your-Own-Yogurt.aspx))
- Bean Sprouts website: How to Make Greek yogurt -- scroll to bottom for troubleshooting ([bean-sprouts.blogspot.com/2007/11/how-to-make-greek-yogurt.html](http://bean-sprouts.blogspot.com/2007/11/how-to-make-greek-yogurt.html))
- Jim Hodge's website -- scroll to bottom for troubleshooting ([home.att.net/~jdhodge/Yogurt.htm](http://home.att.net/~jdhodge/Yogurt.htm))

## Kefir Recipe

NOTE: for instructions on using kefir grains, see "Advanced Kefir" handout. Instructions here use the powdered starter, or a bit of a previous batch.

**Culturing temperature: 65 - 76° F (room temperature)**

### **Ingredients:**

- 1 quart whole or reduced fat milk
- 1 packet powdered, freeze dried kefir starter.

### **Equipment:**

- 2 quart stainless steel pot
- quart jar, with lid
- milk thermometer (0 - 220°F)

### **Process:**

#### **Pre-Heat:**

- \* Pasteurized milk: first heat to 180° F in stainless steel pot, then cool to about 90°F (skin temperature) before proceeding. Pour into quart jar.
- \* Raw milk: set quart jar of milk in pot of simmering water (turn off heat); warm to about 90°F. Or you can heat to 180° F and then cool as for pasteurized milk.

#### **Culturing:**

- \* **Kefir starter:** Pour ½ cup of warmed milk into measuring cup, sprinkle powder over milk, stirring to dissolve. Or stir ½ cup milk into 2 - 4 Tbsp kefir from previous batch. Then stir back into rest of the milk. Cover pot or put lid on jar. Rest on counter at room temperature, but not in direct sunlight, for about 8 to 24 hours, depending on taste.
- \* In the summertime, start the kefir in the evening and let it culture overnight; it would be too warm during the day.

**Chill** thoroughly in refrigerator. Don't disturb until chilled.

- \* Making kefir is a true art; you will learn from each batch you make. Kefir should be a little thicker than milk, and have a light effervescent quality. If cultured too long, it will separate into cheese & whey, which is not necessarily a bad thing, just different (see 'Strain,' below).

**Store:**

- \* You do not need to strain unless you want kefir cheese.
- \* Store kefir in quart glass jar or bottle, in refrigerator. Plastic containers can leak toxins into the acidic kefir.

Cultured milk like kefir has a longer shelf life than fresh milk. Kefir will continue to ferment in the refrigerator, but less vigorously.

If the whey has separated: Blend it back together in your blender (after chilling), and shake well before serving. Or strain off the whey through a fine sieve, to make kefir-cheese.

**Kefir cheese:**

- \* Allow the kefir to culture at room temperature until the whey has fully separated and the curd is quite thick and tangy. Strain through a sieve; store kefir cheese in clean jar with lid. Save the whey to inoculate sauerkraut or other lacto-fermented condiments, or to add minerals and protein to a smoothie.
- \* Excellent in salads.

**Reusing Starter:**

- \* **Reusable powdered kefir** starter (see sources, below) can be reused about 7 times before it loses its ability to make kefir. Use about 2 - 4 Tbsp of cultured kefir for each quart of milk.
- \* **Other powdered kefir** starters (such as Yogourmet brand available in most natural food stores) are not reusable.

**Sources for Kefir Starter**

**Freeze dried starter:** all of these can be re-cultured 6-7 times:

- Mercola ([http://shop.mercola.com/Nutrition\\_Products-Kefir\\_Culture\\_Starter-P177.aspx](http://shop.mercola.com/Nutrition_Products-Kefir_Culture_Starter-P177.aspx))
- Body Ecology (866-533-4748 or [www.bodyecology.com/](http://www.bodyecology.com/)), or
- Wilderness Family Naturals ([www.wildernessfamilynaturals.com/kefir\\_culture.htm](http://www.wildernessfamilynaturals.com/kefir_culture.htm)),
- cheesemaking.com ([www.cheesemaking.com/store/p/146-Kefir-2-packets.html](http://www.cheesemaking.com/store/p/146-Kefir-2-packets.html)).

**Related cultures** (available from G. E. M. cultures, [www.gemcultures.com/dairy\\_culture.htm](http://www.gemcultures.com/dairy_culture.htm))

- Fil Mjolk (from Sweden) and Piima or Villi (from Finland): Milk from cows fed butterwort herb is used to make the Scandinavian cultures that are similar to buttermilk and kefir.

**References:**

- *Nourishing Traditions*, by Sally Fallon with Mary G. Enig
- *Wild Fermentation*, by Sandor Elix Katz
- Yogurt: A Milk Product with More ([www.medicinalfoodnews.com/vol02/issue5/yogurt.htm](http://www.medicinalfoodnews.com/vol02/issue5/yogurt.htm))
- Wilderness Family Naturals ([www.wildernessfamilynaturals.com/kefir\\_culture.htm](http://www.wildernessfamilynaturals.com/kefir_culture.htm))
- About Milk ([www.cheesemaking.com/cheesemakingmilkinformation.html](http://www.cheesemaking.com/cheesemakingmilkinformation.html))
- DOM's Kefir Site (Australia: [www.kefir-grains.com](http://www.kefir-grains.com)); excellent information resource