The EssentiaList

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Using Kefir Grains

The making of kefir from grains is similar to making kombucha from the kombucha "mushroom," and indeed, both beverages have a lot in common.

Advantages of Grains over Powdered Culture

- While powdered cultures provide 6 -7 different strains of beneficial micro-oganisms, kefir grains provide at least 42!
- Grains can be used indefinitely, with proper care, and continue to grow so you can share with friends; powdered culture can only be re-used for up to 7 batches.

Disadvantages

- Using grains requires daily attention. 'Taking a Break from Kefir' requires careful procedures to put your grains "to sleep," to keep them viable (see below for more).

Notes about Ingredients for Milk-Kefir Culture

- **Milk**: **DO NOT USE ultra-pasteurized milk**, as it will not culture properly. I use raw milk, or pasteurized **Lifeline brand whole milk** (from Victor MT).

  You can use either goat's or cow's milk. Rice, nut and coconut milks can also be used. Homemade soy milk may work, but avoid commercial soy milk made with isolates.

- **Kefir grains** are a live kefir colony resembling cauliflower or white coral. To obtain live grains, see "Sources" (below), or check out Kefir-List for listings of people in many communities with grains to share (http://www.torontoadvisors.com/Kefir/kefir-list.php), or obtain from a friend. Kefir grains can be conditioned to culture in water, making beverages such as water kefir, kefir ginger ale, kefir lemonade, etc.. See 'Water Kefir Grains' (below).

  Dom's site (see 'Sources') recommends NOT rinsing grains with water because it interferes with the rhythm of the microflora found on the surface of the grains.

  Most likely your grains are in a dormant state when they arrive, and it is best to culture them in pasteurized dairy milk the first time. After straining, discard this first liquid, and reuse the grains for another batch (which you can drink).

  The Happy Herbalist (see 'Sources') recommends tossing the first few cycles of kefir liquid, while the grains become accustomed to their new environment.

Kefir Recipe (Cultured Milk)

Ingredients:

- 2 cups whole or reduced fat milk
- 2 Tablespoons kefir grains (curd)

Equipment:

- 2 quart stainless steel pot
- glass quart jar for fermenting
- Strainer (see options, right)
- glass jar or bottle, with lid for storage
- milk thermometer (0 - 220^{0}F)

Strainer Options:

•stainless steel mesh strainer

•bamboo or cane “cheese basket”

•Nylon or plastic strainers may be used, but may leak toxins into the acidic mixture.

•Do not use any metal other than stainless steel (no aluminum, copper, brass, etc.)

•See ‘Alternatives to Jar and Strainer’ for more ideas

Process:

- Recommended proportion for each batch is 1 Tbsp grains per cup milk.

First time:

- If using frozen or dehydrated grains, reactivate them (see Reactivate Resting Grains). Not necessary if starting with live grains (in milk).
- Add 2 Tbsp kefir grains to fermenting jar; mark level of grains on the outside of the jar with permanent marker, so you can keep track of how much your grains grow over time, and to know how much needs to be removed when they grow above the mark.

Pre-Heat Milk:

- Raw milk: set quart jar of milk in pot of simmering water (turn off heat); warm to about 90^{0}F. Or treat same as for pasteurized milk.
- Pasteurized milk: first heat to 180^0 F in stainless steel pot, then cool to about 90^{0}F (skin temperature) before proceeding. Pour into quart jar.

Culturing:

- Add 2 cups warmed (room temperature) milk to kefir grains in fermenting jar; swish around to mix. Cover loosely with a cloth or loose-fitting lid. Keep on counter at room temperature (68 - 80^{0}F, but not in direct sunlight, for 12 hours to 2 days. Occasionally stir or swish the contents to redistribute the grains, and then taste for desired tartness.
- In the summertime, start the kefir in the evening and let it culture overnight; it would be too warm during the day.
- 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 ‘Kefir Cheese,’ below)

Strain and Reuse Grains

- Pour through strainer or basket into bowl or jar.
- Wash fermenting jar with soap and water (not necessary every time, but before it gets too sticky and gluey from the milk casein).
- Add strained grains back to fermenting jar, with more room-temperature milk, to make a new batch right away. Kefir grains must be reused every 1-2 days, or prepared for long term storage (see 'Taking a Break from Kefir,' below).
- Rinsing grains with water between batches is not recommended unless preparing for dehydration, or if grains are left in milk so long they get crusty. See Kefir Help and Information, specifically Dom's site, for more detail.
- Wash strainer or basket with hot water and allow to air dry before every use. Can also sterilize a hand-woven cane or bamboo basket in boiling water.

Storing Kefir Liquid

- Drink right away, or store in glass jar or bottle (not plastic), in refrigerator. Cultured milk like kefir has a longer shelf life than fresh milk. Kefir will continue to ferment in the refrigerator, but less vigorously.
- If whey has separated, blend it back together in your blender (after chilling), and shake well before serving. Or make kefir cheese (see 'Kefir Cheese' below).

Alternatives to Jar and Strainer

- Use a loosely-woven hemp pouch, or a jar fitted with a nylon or stainless steel mesh screen (as for sprouting). See Kefir Help and Information, specifically Dom's site, for more detail.

Taking a Break from Kefir

See Kefir Help and Information, specifically Dom's site, for more detail (mis-spelled 'grains' as 'gains' is correct):

Resting State (requires a bit of baby-sitting):

- Place grains in canning jar with appropriate amount of milk (1 cup milk per Tbsp grains). Screw on lid, and store in refrigerator 1 week.
- Strain; the cultured kefir is safe to consume. Or if need to rest longer, refresh with more milk in jar, screw on lid and store in refrigerator for another week. Can continue this cycle for several weeks
- The strained grains are ready to make a new batch, but it may take more than 24 hours at room temperature for the grain to "wake up" fully. If they have been stored for several weeks, it may make a few batches to reactivate fully.

Resting with Less Baby-Sitting:

- Proceed as above in weekly batches, but increasing the amount of milk each time by 30 - 50%. Optimal kefir:milk ratio is 1:60 (by volume). That is, 1 Tbsp grains to 3 3/4 cups milk. Leave at this ratio no more than 1 month.

Freezing Grains for Up to 2 Months Storage:

- This method is recommended for keeping a back-up batch.
- Wash grains with pre-boiled and cooled water. Pat-dry the grains between pre-ironed, cooled white cotton toweling to remove excess moisture. [Pre-ironing toweling protects from contamination.]
- Place in freezer jar (or plastic freezer bag). Add enough dry milk powder to cover grains completely, to prevent freezer burn.

Dehydrating Grains for Up to 18 Months Storage:

- Stretch a sheet of nylon fabric over an empty wooden frame, and staple down.
- Wash grains with pre-boiled and cooled water. Pat-dry the grains between pre-ironed, cooled white cotton toweling to remove excess moisture, or simply let rest 30-minutes on the toweling. [Pre-ironing toweling protects from contamination.]
- Place grains on nylon frame, and cover with another sheet of the nylon fabric (to prevent dust and insects from landing on the grains), tacking down to the frame with thumb-tacks.
- Dry in well-ventilated, warm spot, until grains become brittle. Milk-kefir grains will dry to a yellowish color; water-kefir grains will dry to a clear to light brown color, like sugar crystals.
- Drying may take 1 - 4 days, depending on type of grains, temperature and humidity, and size of grains.
- Place grains in air-tight, sealed jar, and keep in refrigerator (not freezer). It is recommended to cover dried grains with dry milk powder before sealing jar.

Reactivate Resting Kefir Grains

See Kefir Help and Information, specifically Dom's site, for more detail.

Frozen Grains:

- Thaw frozen grains by placing in a glass filled with cold water for a few minutes, then strain, and wash off any powdered milk that's adhered to the grains with cold water.

Dehydrated Grains:

- Reconstitute dried grains by placing in a glass of milk, then activate by replacing the milk daily (whether milk has coagulated or not), straining between each new glass of milk. Do not drink this milk until it produces a clean, sour aroma. This can take from 4 to 14 days, or so.
- When the milk starts to coagulate with a clean sour aroma, it is ready to go. Typically, the yeasts are the first to revive, and produce foam. Later the bacteria revive, and eventually a good balance between yeast and bacteria is reached.

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 fine sieve; store kefir cheese in a clean jar with lid.
- Save the liquid whey to inoculate sauerkraut or other lacto-fermented condiments, or to add minerals & protein to a smoothie.
- Kefir cheese is excellent in salads.

Using Kefir Grains for Water Culture

- A centuries-old technique originating in the same area of the Caucasus as milk kefir, kefir grains can be used to make delicious beverages from sugary water solutions, such as teas, root beer, lemonade, and so on.
- Kefir requires some type of sugar to feed upon. For example, lactose (from milk), sucrose (Rapadura or white table sugar), glucose (white grape juice), or maltose (from malted barley). Different probiotic species prefer different sugars; for example, L. acidophilus prefers maltose and lactose.
- Purchase translucent water-kefir grains (called SKG) already conditioned for use in water solutions, or use milk-kefir grains with some modifications (see below).

Conditioning Milk-Kefir Grains to Sugary Water

- Transfer a portion of your milk-grains to a sugar solution (sugar-water, or diluted raw white grape juice); see Kefir d'Acqua recipe below, for proportions. Ferment as usual at room temperature, then strain and repeat.
- Note that the first few batches take longer to ferment, up to 4 - 5 days, while the grains become accustomed to the new media (source of sugar). After 3 batches or so, the grains should complete fermentation within 24 - 48 hours.
- Do not use all your milk kefir-grains, but only spare grains. Thereafter, always use the water-grains for water media, and milk grains for milk. Don't try to transfer back and forth.

Kefir d'Acqua (Water Kefir) Recipe

This recipe is adapted from Dom's Kefir site (See *Kefir Help and Information* below)

This site also includes many water-culture recipes, including ginger root beer, grape juice kefir, probiotic herbal teas, bee pollen kefir, etc..

Ingredients:

- 6 cups fresh spring or well water
- 1/3 - 1/2 cup Rapdura* or white table sugar
- 1 tsp blackstrap molasses
- 1/2 - 1 cup SKG or 1-2 tsp milk-kefir grains
- 1 - 2 figs, or 2 Tbsp Sultana raisins
- slice of lemon (peeled if not Organic)
- 3 Tbsp fresh ginger-root juice (optional)
- 1/8 tsp pure baking soda (sodium bicarbonate)
- 1/4 tsp boiled eggshell, or oceanic coral, ground to coarse grit; or KAL Dolomite

* Rapadura is minimally-processed, dehydrated raw cane juice, and retains the molasses with the sugar

Equipment:

- glass half-gallon jar with good-sealing strong lid for fermenting
- Strainer
- glass jar or bottle, with good sealing lid for storage

Process:

✳Add water to jar, never more than 3/4 full (need space for the CO2, to avoid explosions!).

✳Dissolve sugar, molasses and baking soda in the water, stirring. Then add eggshell, ground coral or dolomite. Add figs/grapes, lemon slice, and ginger juice (if using). Add kefir grains.

✳Seal lid on jar, airtight. Let sit at room temperature for 2 days (If using milk kefir grains, it may take 4 - 5 days for the first few batches). Stir every 24 hours.

✳Strain, using plastic, nylon or stainless steel strainer, or handwoven cane or bamboo basket. Squeeze juice from lemon slice back into the strained liquid.

✳Store in glass jar or bottle with lid. Best chilled in refrigerator.

✳Rinse grains with cold water, and reuse immediately.

Sources for Kefir Grains

- Happy Herbalist (www.happyherbalist.com/index.asp?PageAction=VIEWCATS&Category=47),
- DOM's Kefir Site (kefir-grains. com or users.chariot.net. au/~dna/Makekefir.html) << Links deactivated because they contain malware
- G.E.M Cultures (www.gemcultures.com or 707-964-2922).

Kefir Help and Information

- DOM's Kefir Site (kefir-grains. com or users.chariot.net. au/~dna/Makekefir.html) is an excellent information resource. << Links deactivated because they contains malware