

A Short Guide to Kefir for Culinary Students

Shirley Tessler, May 2004

“Support bacteria -- it’s the only culture some people have.” --Steven Wright

What is kefir?

Kefir is a cultured milk product, very similar in taste to yogurt, but thinner in consistency. It can be used as a direct substitute for yogurt in a variety of food products and dishes. It is considered more healthful than yogurt, and is easier to make. Kefir’s main drawback is an unfortunate lack of agreement on how the word should be pronounced.¹

What’s the difference between kefir and yogurt?

Both yogurt and kefir are fermented (cultured) dairy products that offer a good source of calcium, B vitamins, potassium and protein. As a result of the fermentation process, both have a tart, slightly acidic flavor, and both contain enzymes that break down lactose, the principal sugar in milk. These enzymes make kefir and yogurt easier to digest than other dairy products, and thus particularly important foods for lactose-intolerant people.

Yogurt is made by culturing fresh milk (previously boiled and cooled) with a bacteria starter. The starter, usually containing two or three beneficial bacteria, comes from a previously made batch of yogurt. Yogurt must ferment in an environment warmer than normal room temperature (about 110 degrees), for a fairly specific amount of time (about 8 to 16 hours), in order to develop properly. The culture bacteria in yogurt have only a limited lifespan and must be renewed regularly with new culture.

In contrast, kefir is made by culturing fresh milk with live kefir grains. These grains are actually colonies of more than 30 bacteria and yeasts that are bound together in a stable, symbiotic relationship.^{2, 3} Kefir ferments at room temperature, and has a wider range of acceptable fermentation periods (from about 12 hours to two days). Kefir grains stay

¹ In the Oxford English Dictionary, kefir (‘KEF-er) rhymes with heifer, and may also be spelled ‘kefyr’ or ‘kephir’. Both the Merriam-Webster Dictionary (alternate pronunciation) and renown culinary arts instructor, Joseph Schultz, say that kefir (‘KEE-fer) rhymes with reefer. Finally, according to Australian kefir expert, Dominic Anfiteatro, kefir is pronounced, keh-’FEER. The author sides with Chef Schultz in this matter. Readers may take their pick.

² Individual kefir grains look like tiny cauliflower florets. A group of grains together have the overall appearance of cottage cheese. Note: unlike yogurt, new kefir cannot be produced by introducing previously made kefir into milk. The grains must be present in order for the milk to ferment into kefir.

³ Also note that the yeasts in the grains produce alcohol, giving kefir a mild effervescence and weak alcohol content (approximately .5 to 1%).

alive and robust indefinitely. They also grow in size and number during the fermentation process. After the milk is fermented, the grains are filtered out and added to new milk for another batch of kefir.

What's so good about kefir?

Yogurt introduces beneficial bacteria into the intestines. These bacteria keep the intestines clean and provide food for the friendly bacteria which live there. Unfortunately, this salutary effect is transitory and requires eating yogurt daily to maintain the benefit. In contrast, the beneficial microorganisms in kefir actually take up residence in the intestines, where they can continue to aid in digestion and repel harmful bacteria.⁴

Kefir is credited with a particularly wide range of health benefits, from shortening "intestinal transit time" (i.e. curing constipation) to suppressing the growth of Salmonella, healing ulcers, and strengthening the immune system.⁵ It is also said to be somewhat more digestible than yogurt because the curds are smaller, and more of the lactose is broken down by the broader bacterial complex present in kefir. Modern-day health food advocates believe that kefir may also be able to prevent serious health problems, such as cancer, but these claims have yet to be backed up by substantive research.⁶

Where does kefir come from?

Kefir comes with several fanciful stories about its earliest origins. One story says that an angel descended from heaven to teach Abraham how to make kefir. A more popular story is that the Prophet Mohammed gave the first kefir grains personally to a deserving tribe living in the Caucasus Mountains region now called Azerbaijan. Yet other stories

⁴ See Center for Antiaging, The Uses and Benefits of Kefir and Yogurt, http://www.centerforantiaging.com/The_uses_and_benefits_of_kefir_and_yogurt.htm; and Danone Vitapole, Nutritional Value of Yogurt and Fermented Milks, [http://www.danonevitapole.com/extranet/vitapole/Nutritopics.nsf/0/4F13D7E79B836639C1256CD300536B8B/\\$File/DWN02US.pdf](http://www.danonevitapole.com/extranet/vitapole/Nutritopics.nsf/0/4F13D7E79B836639C1256CD300536B8B/$File/DWN02US.pdf); as well as the Danone Vitapole site generally, <http://www.danonevitapole.com>

⁵ See Rebecca Wood, Kefir -- Superior to Yogurt, http://www.rwood.com/Questions/Kefir_Superior_to_Yogurt.htm; also Cathy Saloff-Coste, Danone Vitapole, Kefir, republished in Toronto Advisors, <http://www.torontoadvisors.com/Kefir/article1.htm>

⁶ Kefir has suffered an unfortunate setback on the road to global fame and fortune as the ultimate health drink, in part because many of the alleged definitive studies done on its health benefits were written a century ago in several obscure Slavic languages, and are not accessible to current day Western scientists. In the last 20 years, new research has been started on kefir's possible health benefits and digestibility, as well as on its amenability to being mass produced. As of today, researchers are sure that kefir bestows many health benefits on mice. Most results with humans are still to come. See, for example, Cathy Saloff-Coste, *ibid.*

describe how the rest of the world gained access to these “sacred” grains by various acts of treachery.⁷

In truth, a variety of cultured milk products arose in many regions, around the same time as the domestication of herd animals.⁸ Fermentation was one form of food preservation, and was used for vegetables, fruits, meats, grains, condiments, teas, and alcoholic beverages, as well as dairy products. While the beverage we know as kefir today may have originated in the Caucasus Mountains, 13th century Mongols played a significant role in broadening the use of kefir throughout Northern China and Mongolia, across all of Russia and Asia to the Middle East and Northern Africa, and as far as Eastern Europe.⁹

Kefir, by the way, is not necessarily made from cow’s milk. Some of the most ardent kefir aficionados believe that the best kefir is made from raw goat’s milk. Other cultures use the milk of camels, sheep, and water buffalo. The Mongols made kefir primarily from mare’s milk, an especially rich source of Vitamin C. They often put the kefir through a second fermentation in order to increase the alcohol content. This beverage is still made today in Mongolia and the surrounding regions, and is called kumiss (or koumiss or khoumis).¹⁰

Why should culinary students care about kefir?

- Fermented milks have been an important food in many parts of the world for more than 5,000 years. Knowledgeable, well-rounded culinary students should have at least a rudimentary knowledge about them.
- Kefir is one example of lacto-fermentation. It is useful to understand this simple but powerful process through which milk, vegetables and other foods can change flavor and texture, become more digestible, and gain a longer shelf-life.

⁷ Kefir Manual, http://www.gewo.applet.cz/health/kefir_manual.htm

⁸ Morris County Library, Food Timeline, <http://www.gti.net/mocolib1/kid/food.html>, and Culinary History Timeline, <http://www.gti.net/mocolib1/kid/food1.html>

⁹ The Silver Horde, Mostly Mongolian Cooking, <http://www.viahistoria.com/SilverHorde/main.html?research/MostlyMongolianCooking.html>

¹⁰ For a comprehensive description of the entire range of fermented dairy products and their countries of origin, See Elizabeth Hummel, Traditionele Gefermenteerde Zuivelproducten, <http://66.102.7.104/search?q=cache:h1rug7cEyNoJ:www.voedsel.net/verslag/zuivelproducten.doc+&hl=en&ie=UTF-8> For non-Dutch readers, a less comprehensive description can be found here: Roberto Flora, Yogurt Forever: The Yogurt Encyclopedia, <http://xoomer.virgilio.it/roflora/download/yogforevuk.pdf>

- Learning about foods not widely used in American cuisines is very helpful in gaining a broader perspective on flavor saturation principles,¹¹ food substitutions, and fusion cooking,
- For those with an interest in ethnic cuisines generally, familiarity and hands-on experience with kefir and other fermented milks will prove useful in mastering some of these cuisines.
- Kefir (and yogurt) have several very useful properties, often applied in Indian cuisines, for example. First, kefir can be used to marinate meats, such as chicken. Just as with yogurt, the mildly acidic nature of kefir helps break down and tenderize the meat tissue. It also contributes tart undertones to curries and other dishes, as well as acts as a thickener. Moreover, the casein protein in kefir (and yogurt) acts as a cooling counterbalance to hot peppers and other spicy ingredients.
- Kefir is extremely versatile. It can be made into a huge variety of products including cheese, butter, buttermilk, and crème fraîche.¹² It can also be used in baked goods, and is especially good as a sourdough starter. The whey by-product from kefir fermentation can be used as a starter for other lacto-fermentations, such as sauerkraut, eliminating the need to add all or almost all of the salt usually required.¹³
- As mentioned earlier, kefir is healthier and more digestible than other dairy products, including yogurt. Moreover, home-made kefir is both better and cheaper than either commercial yogurt or kefir, and so can be an economical alternative in a budget-conscious kitchen.
- Finally, knowing about kefir may prove to be invaluable while traveling in other parts of the world. In Tibet, for example, a knowledgeable culinary student would be able to enjoy and fully appreciate the importance of the yearly Xuedun (Fermented Milk) Festival.¹⁴ Informed students would also be better prepared to eat out in Belarus, where an online travel guide includes a warning about the probability of food-related illnesses, offering this advice to visitors: “If you can

¹¹ Joseph Schultz, *Mushroom Cookbook*, Many Names Press, Santa Cruz, CA, Revised, 1996

¹² Terry Varlow, *Kefir Fermented Dairy Foods*,
http://spiritualpath.co.uk/html/kefir_fermented_foods.html

¹³ Dominic Anfiteatro, *Dom's Kefirkraut In-site*,
<http://users.chariot.net.au/%7Edna/kefirkraut.html>, and Search for Good Health,
<http://www.searchforgoodhealth.com.au/kefir/>

¹⁴ China Excite, *Tibet Major Festivals*, http://www.chinaexcite.com/tradeguide/ec_g-tb.htm#cc

drink Kefir, ...you will be able to eat anything. It makes your stomach stronger.”¹⁵

How can vegans enjoy kefir?

As it turns out, kefir grains are remarkably adaptive, and don't require dairy milk at all. Kefir can be successfully made from soy milk, the milk of nuts, seeds or coconut, or cereal grains. Yet another non-dairy kefir can be made with sugar water mixed with citrus and dried fruit. This latter fizzy beverage is called “water kefir” and is prepared with a special variety of kefir grains called “sugary grains.” Regular “milky” kefir grains can be successfully adapted for water kefir over a period of several days.¹⁶

Where can kefir grains be obtained?

Luckily, kefir grains grow in weight by 5 - 10% daily in the course of fermentation. Since the ratio of milk to kefir grains must be maintained at about 10 to 1, eventually all kefir makers will find themselves with a surplus of grains. These extra grains can be eaten, but are often distributed for free or nearly free to friends or online. It may take a bit of asking around, but a source of kefir grains should be found fairly easily.

Where can one find more information about kefir?

There are hundreds of web sites dedicated to kefir, yogurt and other fermented foods. An excellent starting point is Dom's Kefir In-site.¹⁷

¹⁵ World 66, <http://www.world66.com/europe/belarus/eatingout>

¹⁶ Dominic Anfiteatro, Dom's Kefir In-site: Non-Dairy Kefirs and Water Kefirs, <http://users.chariot.net.au/%7Edna/kefirpage.html#alternativekefir> and Dom's Non-Dairy Milk and Rejuvelac In-site, <http://users.chariot.net.au/%7Edna/vegmilk.html>

¹⁷ Dominic Anfiteatro, Dom's Kefir In-site, <http://users.chariot.net.au/%7Edna/kefirpage.html>