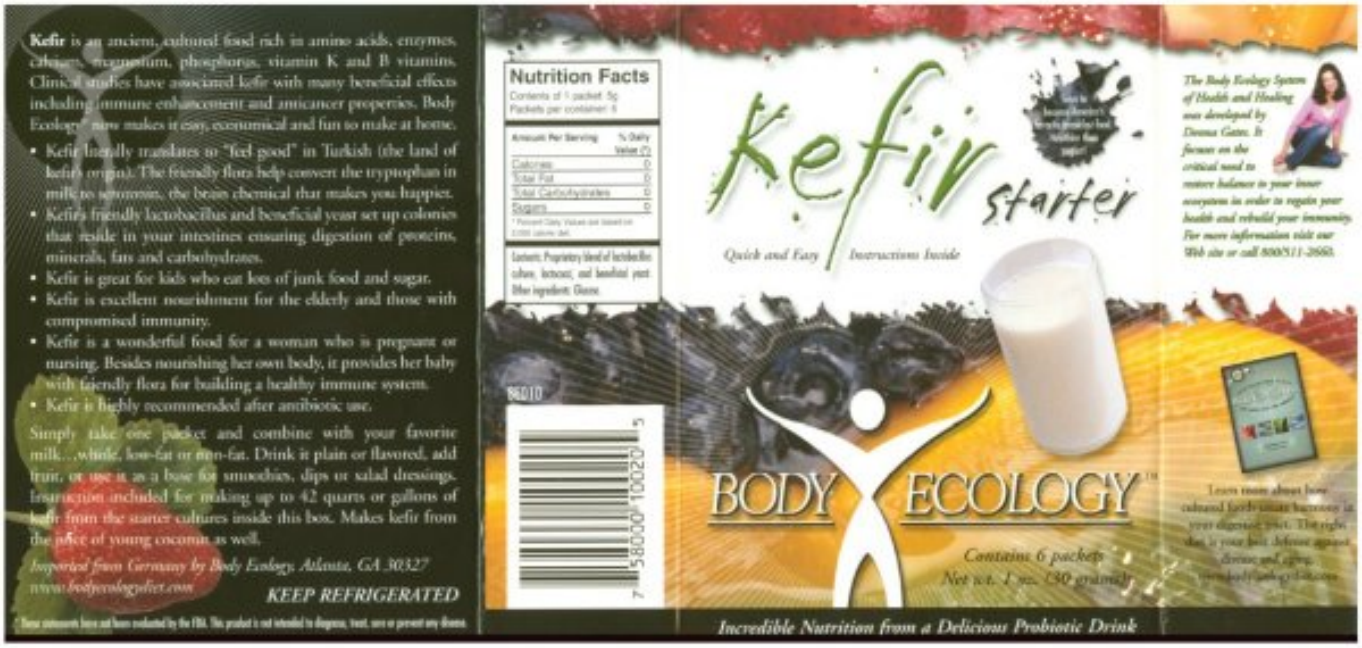
KEFIR – RAW
(DAIRY AND NON-DAIRY)



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National Kefir Association
http://nationalkefirassociation.com
Dom's Huge Kefir Page
http://users.sa.chariot.net.au/~dna/kefirpage.html

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Integral Nutrition: **Raw Milk Kefir**
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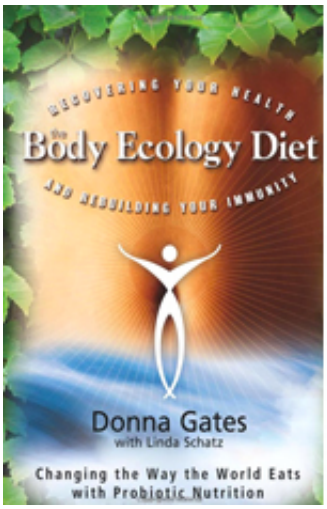
Terms:

The Magic of Kefir

Source: *The Body Ecology Diet* by Donna Gates



Since the first printing of this book, thousands of people around the world have discovered for themselves the benefits of the Body Ecology Diet. We have received hundreds of letters attesting to this, and are very grateful to know that so many of you are becoming well.

Many of you have reported so much improvement that you call yourselves "cured." Some of you are symptom free; others tell us that they immediately feel better, but that their symptoms return when they stop following The Diet.

And for a significant number of you, digestive problems persist or there is unwanted weight loss. This means that the inner ecosystem still is not fully reestablished and needs some additional help. It also means that

even the healthiest foods may be passing through your body without their nutrients being adequately absorbed.

If that's the case, the solution is to continue your healing process and intensify your focus on restoring the integrity of your inner ecosystem as quickly as possible so your digestive tract can begin to assimilate food properly. Remember, you are not completely well until your inner ecosystem is restored.

Without detracting from the importance of The Body Ecology Diet, probiotics, Vitality SuperGreen, cultured vegetables, and fermented young coconut foods, we would now like to introduce you to kefir ... a wonderful ancient food that we believe will help many of *you* enter the final phase of getting welt restore the integrity of your digestive tract, and add to the effectiveness of everything else you've done so fat.

Donna's Story

Many years ago, I was introduced to kefir, bur did not understand at appreciate its value. An excellent colon therapist had mentioned to me that kefir, especially goat milk kefir, has a very beneficial, toning effect on the colon. After a bit of searching, 1 found a goat farmer and master cheese maker in Pennsylvania who made delicious kefir. l ordered some and tried it, but was highly skeptical since it was made from milk, which sent up a red flag for me. Milk is mucus-forming; feeds yeast; and in Chinese medicine, produces a sticky, "damp" quality. Besides, I had always been lactose intolerant and allergic to milk. So, even though I enjoyed it, I quickly dismissed kefir as an unimportant food.

Then, as always happens fat me, I began to see signs that I needed to open my mind to new possibilities. Fat example, I happened to turn on the television (which I rarely watch) and saw a program about fish in a Canadian lake that produced mucus to protect themselves as the lake's pH level rose due to acid rain. Several days later, I lunched with a friend whose daughter had brought home a book describing how a fish had totally covered itself with mucus when it washed up on the beach, protecting itself until the rising tide returned it safely back to sea. I realized MUCUS can be a protection. After a little more reflection, I remembered that all things in this universe have both a positive and a negative side and I had been focusing only on the negative aspect of mucus.

I tucked this information away in my mind, and as I began collecting more information about kefir, more parts of the puzzle fell into place. For example, I knew that at birth, a newborn has no inner ecosystem and MUST establish it during the first few months of life. Nature decrees that mother's milk be available for all offspring of mammals. This milk lays down a bed of clean mucus, allowing friendly bacteria to establish themselves. Breast milk is an excellent source of protective agents such as lauric acid, a powerful antimicrobial that deactivates pathogenic bacteria, yeast, fungi, and some viruses. This protects the baby until the inner ecosystem is well established with positive bacteria and its immune system matures.

As I began to add up all the facts, I realized that:

1) There is both good, clean-quality mucus and toxic mucus

2) Good mucus coats and protects the interior lining of the digestive tract; and

3) unlike yeast, which burrow into the intestinal walls with their tentacles, good bacteria do not have tentacles and must be caught by this clean mucus, where they nestle into their warm, acidic environment, fed by the sugar (lactose) in mother's milk.

Mucus, I finally had to admit, was an essential part of a healthy inner ecosystem.

People with candidiasis have a very unhealthy inner ecosystem. They have an overgrowth of fungus or yeast, and very toxic bowels. In order to heal, they must first cleanse the colon and control the yeast overgrowth. Then they must reestablish an inner ecosystem teeming with beneficial bacteria. At this second stage, a sufferer of candidiasis could be compared to a newborn babe ... both MUST have this vibrant, living inner world if they are going to assimilate nutrients; create a strong immune system; and live a long, fruitful life.

It was becoming clearer to me that kefir had tremendous healing power. With its laxative effect, it helped clean my colon. Its beneficial bacteria and yeast helped control the pathogenic yeast and repopulate my colon with a favorable, new life force. And kefir, being cultured, was much healthier than milk.

In ancient times, kefir was given to the people of the Caucasus region of Eurasia as a gift from the gods. Perhaps these "gods" were watching over mankind and offering us this miracle food at a time when we desperately needed it. Now, if only I could learn to make kefir and test out my theory. The problem was that no one had grains or a starter culture, there was almost no information available, and the few people who knew about kefir did not want to share their "secrets." Then a miracle happened!

After the publication of the first edition of *The Body Ecology Diet*, r felt drawn to take a spiritual sabbatical to recharge myself and give thanks for the success of the book. I traveled to a sacred area of Japan and attended a ceremony honoring the creation of humanity. A friend from Sendai, Japan, joined me the evening before the ceremony and brought with him Mrs. Kwai, a woman I had never met before. He [old me that his friend had felt very strongly compelled to come and bring with her something she thought I needed. Amazingly, it was a little brown pot of kefir grains cultivating in milk. Mrs. Kwai opened the container and, with her strainer and a spoon, showed me how to make kefir.

My prayers were being answered. In amazement I brought the kefir back to my room, still not fully appreciating what I had been given. I ate the kefir, loved the taste, and felt a surge of strength after my tiring journey.

When I returned home, everything started coming together.

I began making kefir every day. At first I was skeptical, as I always and about new foods, so I told no one about it. **Each morning I had a glass of it, and within two weeks couldn't believe how much energy I had.** When you are over 50 (as I am), if you eat the wrong foods, it shows and you look YOUR age. However, I was amazed that each day I seemed to look younger. Others noticed it, too, and kept telling me how good I looked. Any woman loves that.

One day, I received a call from a woman who was using alternative methods, including the Body

Ecology principles, to heal herself from non-Hodgkin's lymphoma. Yes, the lab reports showed no trace of cancer, bur I could still hear a weakness in her voice. Intuitively, I knew the kefir would help her.

It did! She called again two weeks later and the change in her voice was remarkable. She said she was feeling much, much better. From that day on I recommended kefir to many more people.

Women with vaginal yeast infections told me that kefir cleared up the infection. Young women with eating disorders and people with Crohn's disease, stomach problems, ulcers, diverticulitis, depression, and constipation all reported that they were becoming well, simply by following The Diet and having kefir for their breakfast meal.

Thousands of people are now on the Body Ecology Diet.

They have been spreading the word about it and about kefir, too. Many are making kefir at home and love to do so. (Later, we'll tell you how.)

I can't recommend kefir highly enough. It is a nutritious, incredibly delicious food. If your body is ready for it and you

find you tolerate it well, kefir can be essential to your achieving maximum health and immunity. As you read this book and begin to drink kefir, you'll realize, too, that it is an ancient remedy for modern maladies: a true gift from heaven. Enjoy!

What Is Kefir?

Kefir is a cultured and microbial-rich food that helps restore the body's inner ecology. It contains strains of beneficial yeast and beneficial bacteria (in a symbiotic relationship) that give it antibiotic properties. A natural antibiotic-and it is made from milk! The finished product is not unlike that of a drinking style yogurt, but kefir has a more tart, refreshing taste and is more medicinal.

The Body Ecology Diet recommends avoiding dairy products because they contain a milk sugar called lactose that feeds yeast and creates mucus. **But kefir does *not* feed yeast, and it usually doesn't even bother people who are lactose intolerant. That's because the friendly bacteria and the beneficial yeast growing in the kefir consume most of the lactose and provide very efficient enzymes (lactase) for consuming whatever lactose is still left after the culturing process.** Yes, kefir is mucus forming, but only slightly so if you follow some simple food combining rules (more on these later).

And here's the capper: the slightly mucus-forming quality is exactly what makes kefir work for us. The mucus has a "clean" quality to it that coats the lining of the digestive tract, creating a sort of nest where beneficial bacteria can settle and colonize. This makes the other probiotics you may be taking even more potent: they now have a better chance to take hold and proliferate in your intestines, helping you really "get your money's worth." By the way, kefir can be made from any type of milk, including cow's milk, goat's milk, or soy milk.

Kefir was traditionally made from gelatinous white or yellow particles called "grains." The grains

contain the bacteria/yeast mixture clumped together with casein (milk protein) and polysaccharides (complex sugars). They look like pieces of coral or small clumps of cauliflower and range from the size of a grain of wheat to that of a hazelnut. Some grains have been known to grow in large flat sheets that can be big enough to cover your hand. No other milk culture forms grains or has beneficial yeast ... making kefir truly unique. Once the grains have fermented the milk by incorporating their friendly organisms into the final product) you should remove them with a strainer before drinking the kefir. The grains can then be rinsed and added to a new batch of milk, and the process continues indefinitely.

Kefir grains are a little more difficult to work with since they can be contaminated easily when they are rinsed and transferred into fresh milk. Also, since you cannot see the lactobacillus and yeast colonizing on the grains, *you* cannot be certain that *the* correct micro flora are there. In other words, if the lactobacilli crowded out the yeast-as they sometimes aggressively do-you wouldn't know it. And while you would still have a fermented drink, it would not be kefir. For these reasons, **Body Ecology now offers a "starter" made from grains and composed of lactobacillus and two especially hardy strains of yeast.** A starter is just that-a starter that allows you to "start" a quart of kefir. From that original quart, *you* can then make much larger quantities of kefir. (Our Body Ecology starters comes with easy-to-follow instructions and are available at fine health-food stores, or by calling 1-866-4BE-DIET.)

Kefir vs. Yogurt

Kefir, experts believe, has more nutritive value than yogurt.

Its very active yeast and bacteria excel in digesting the foods you eat and in keeping the environment of the colon clean and healthy.

Yogurt is made by addling a starter culture to milk and gently heating it to a certain temperature. To make kefir, you MUST start with the grains or a starter, and no heating is required. This means that if you can obtain a reliable source of fresh, raw milk, you can retain enzymes that would normally be destroyed by the heat of pasteurization. **Kefir "cultures" at room temperature in approximately 16 to 24 hours, right on your kitchen counter.**

After your inner ecology is rescored, you may find that you now digest yogurt well and want to make use of its friendly bacteria. But choose kefir first. Its friendly bacteria and yeast are crucial to the restoration process. We think of them as a SWAT team moving in quickly to begin the therapeutic process, efficiently doing the job they were created to do.

You may see a product in the store that claims to be kefir, but read the label carefully. Unless it has strains of friendly bacteria and the good yeast, it is most likely a drinkable yogurt.

Benefits of Friendly Bacteria

With more than 400 different species of beneficial microorganisms living inside a healthy gut, why not give them the optimal environment? As we've said, kefir lays down a foundation of clean mucus so these beneficial organisms have a place to thrive. When you add probiotics (friendly

organisms purchased from your health-food store), they too will find a receptive home much more quickly if a favorable environment has already been created.

You can easily make kefir fresh every day or so in your own kitchen so that its friendly yeast and bacteria are readily available to do their job in your intestinal tract.

After you restore the balance to your inner ecology using the Body Ecology Diet, cultured vegetables, young coconut kefir and kefir cheese, probiotics, and cow- or goat-milk kefir, your intestinal tract will be teeming with friendly organisms. Then you will be better able to enjoy some foods containing natural sugars (fruits, whole cereal grains, and the sweeter vegetables such as yams and parsnips), and you may tolerate that occasional binge on really sugary food such as a piece of cake or candy. The beneficial bacteria gobble up the sugar for themselves first, leaving little to carry into the rest of your body. Of course, we are not endorsing foods with refined sugar, but it certainly doesn't hurt to be prepared and "well armed." Ironically, when you eat cultured foods, you will lose your cravings for carbohydrates and sugars.

If you are a parent· worried about all the sugary foods your child wants (and often gets), kefir is especially useful for establishing and maintaining a strong immune system. To make a kefir treat that kids love, add the natural, sweet-tasting herb stevia; some non-alcoholic fruit flavorings; or vanilla. You can even freeze this mixture and make frozen kefir popsicles (some microflora will die when frozen).

All cultured foods, including kefir, keep the small and large intestines clean and free of parasites. Once in the large intestine, the beneficial bacteria create lactic acid that balances the pH level there. In this acidic environment, parasites and other unfriendly organisms cannot survive. Kefir's beneficial yeast and bacteria are ready to ambush any parasite eggs or larvae before they have a chance to establish themselves and multiply.

With its .02% alcohol content (produced by the yeast), kefir is acidic when you make it; yet it becomes alkaline-forming in the body once you eat it. This means that the overall quality of the blood remains slightly more alkaline and you remain healthy.

The friendly bacteria and yeast in kefir provide a good advance team for other probiotic cultures like acidophilus and bifidus. Kefir "clears the land" and establishes clean, healthy sites for new colonies of friendly bacteria. When the new settlers arrive (the friendly bacteria you buy in your health-food store or generate internally by eating cultured foods), they remain and thrive, ensuring a far better return on your investment.

New research has found that stomach ulcers are often caused by pathogenic bacteria called *Helicobacter pylori.* Expensive antibiotic therapy is now being used to kill this invader. Kefir may prevent such ulcers. Remember that antibiotics kill all bacteria, both the good and the bad, so it is important to remain on the Body Ecology Diet if you must take antibiotics, using cultured vegetables, the coconut and dairy kefir, and probiotics to rebuild your inner ecosystem.

We have found both kinds of kefir to be beneficial in cases of diarrhea, which is common in those afflicted with AIDS or in cancer patients undergoing chemotherapy or radiation.

Nutritional Benefits

Kefir from milk is a complete protein with all the essential amino acids. By the time you drink kefir, its friendly bacteria have already partially digested the protein, making it much easier for *you* to digest. High amounts of protein are critical to healing, and your body must have adequate minerals in order to assimilate the protein. Kefir provides these, too. Both milk kefir and young coconut kefir contain an abundance of calcium and magnesium.

Tryptophan, an essential amino acid found in milk kefir, combines with the calcium and magnesium to help calm the nervous system. **Some people call kefir "nature's tranquilizer" or "nature's Prozac."** Its calming effect is great for people who are high-strung or nervous, for hyperactive children, or for people with sleep disorders, such as the elderly. **The body converts tryptophan into serotonin, an important chemical known as a *neurotransmitter*. Balanced serotonin levels can cure depression and constipation, induce sleep, and prevent waking during the night. This conversion is helped along by vitamin B-6, which is also abundant in kefir.**

Kefir also has ample phosphorus, the second-mostabundant mineral in our bodies. Phosphorus is important in utilizing carbohydrates, fats, and proteins for growth, cell maintenance, and energy. A phosphorus deficiency can result in the loss of appetite.

Kefir and the B Vitamins

People with candidiasis are usually deficient in the B vitamins and in vitamin K because the body's use of these vitamins depends on adequate levels of friendly bacteria in the intestinal tract. When kefir is included in the diet, your body should soon be able to manufacture sufficient amounts of these needed bacteria. Vitamin K promotes blood clotting, encourages the flow of urine, relieves menstrual cramps, increases vitality and longevity, and enhances liver functioning.

Kefir provides biotin, another B vitamin, which is missing in people with candidiasis. Biotin is a coenzyme that assists in the manufacture of fatty acids and in the oxidation of fatty acids and carbohydrates. Without biotin, the body's production of essential fatty acids is impaired. Biotin also aids in the body's assimilation of protein and other B vitamins: folic acid, pantothenic acid, and B-12. A deficiency of biotin can cause muscular pain, poor appetite, dry skin, lack of energy, or depression and a distressed nervous system.

Kefir is an excellent source of vitamin B-12, which is essential for longevity. It is the only vitamin that contains essential mineral elements. It cannot be made synthetically but must be grown, like penicillin, in bacteria or molds. B-12 is necessary for the normal metabolism of nerve tissue and for red blood cell formation. B-12 builds immunity and has been used to increase energy and counteract allergens. It is also required for normal growth and is important for fertility and during pregnancy. Plus, it works along with folic acid, another member of the B complex, in facilitating the synthesis of choline, a fat and cholesterol dissolver that plays an important role in the transmission of nerve impulses. Choline also helps regulate kidney, liver, and gallbladder function and aids in the prevention of gallstones.

B-12 helps the assimilation of vitamin A into body tissues by aiding carotene absorption, or

conversion. It also aids in the production of DNA and RNA, the body's genetic material. B-12 needs to be combined with calcium during absorption to benefit the body properly; nature has provided for that in kefir.

Kefir is rich in thiamin (vitamin B-1), also known as the "morale vitamin" because of its beneficial effects on the nervous system and on mental attitude. Thiamin is linked with enhanced learning capacity; growth in children; and improvement in the muscle tone of the stomach, intestines, and heart. It is essential for stabilizing the appetite and improving digestion, particularly of carbohydrates, sugar, and alcohol.

Kefir from cow's milk is a wonderful source of folic' acid (recommended for pregnant women to prevent spinal deformities in their unborn children).

Benefits to Your Overall Health

Kefir helps stop food cravings because the body feels nourished as an inner balance is achieved and nutritional deficiencies are corrected.

Kefir provides a "sour" taste. Chinese medicine teaches us there are five tastes necessary for balance in the body; the sour one is not commonly found in our American diet.

The skin prospers from kefir. It will become moist and creamy and, over time, you will notice a refinement of the pores. You can use kefir externally to help moisturize your skin; yet, it is beneficial for oily skin, too. Fermented milks contain lactic acid, which is one of the naturally occurring alpha hydroxy acids (AHA) so popular in the cosmetic world today.

Kefir is cooling to the body, so it is ideal to consume when you have a fever or any other condition resulting in body heat such as a herpes outbreak or AIDS.

After taking antibiotics, kefir is very useful for reestablishing friendly bacteria in the intestines. Kefir is "nature's antibiotic."

Using it helps reduce the need for antibiotics in the future.

Kefir's friendly bacteria automatically show up in the vagina, or you can implant them more directly as a douche.

While colonic therapy helps cleanse pathogenic yeast from the large intestine, such yeast colonize in the small intestine as well. Fermented foods have a cleansing effect on both intestines. Once these are free of pathogens and colonized with beneficial microorganisms, the liver is able to function much better as well.

Both young coconut kefir and milk kefir help produce more pleasant breath, healthier bowel movements, and sweeter-smelling stools. And they will eventually help eliminate flatulence!

How to Introduce Kefir into Your Diet

Some people thrive on kefir from milk right from the start, and others may need to proceed more slowly. People with candidiasis have a leaky, permeable gut lining. This lining must be healed before you can start drinking kefir made from dairy. It's essential that the protein in milk kefir (casein) does not leak through the gut lining and cause further problems, including allergies. (NOTE: Young coconut kefir and kefir cheese have no caseins, and are allowed in the early stages of The Diet. They introduce dairy-loving bacteria into the intestines so that when you eventually drink kefir made from milk, you'll digest it easily.)

Once your leaky, permeable gut has healed (8 to 12 weeks on The Diet), start with about four ounces in the morning on an empty stomach. Every week increase the amount until you are able to drink more.

The *Body Ecology Diet* was developed for people who have a problem with a "leaky" inflamed mucosal lining; and Vitality SuperGreen has ingredients that nourish the lining as well. **Cultured vegetables, young coconut kefir, and the other fermented foods we recommend will become important tools for creating healthy intestines.**

Moreover, people with candidiasis have what Chinese medicine calls the condition of dampness. Unfermented and improperly combined dairy products can lead to even more dampness and excess mucus. Here are some suggestions for introducing kefir while conquering dampness:

- Eat *Body Ecology Diet* foods, which will help heal a leaky gut and have a "drying" effect.
- Use proper food-combining techniques to make kefir less mucus-forming (see below).
- Drink plenty of water, and eat grains that have been soaked and then cooked. These add moisture and fiber to the colon.
- Clean your colon. If a colon is free of blockages, kefir is tolerated more quickly. We have found that people who report having trouble with kefir often have not followed the advice on colon cleansing. You probably also need to add a significant amount of acidophilus and bifidus bacteria to your small and large intestines. These wonderful bacteria help clean and improve the health of your entire digestive tract.
- Be sure to get adequate exercise. Exercise stimulates the colon and improves elimination.
- Make your kefir from goat's milk if you find cow's milk is mucus-forming. The milk from a mother's breast is alkaline-forming. Goat's milk is also alkaline, while cow's milk is acidic. This could explain why goat's milk is often better tolerated by some people. It also has more calcium, magnesium, phosphorus, and potassium than cow's milk. Goat's milk contains no folic acid, however, so pregnant and nursing mothers should consider a folic acid supplement and eat leafy greens, broccoli, root vegetables, and whole grains. (Goat's milk will also require more starter culture.)
  It is naturally homogenized, so the fat cannot be separated. If your digestion of fats is poor at this time, you may do better on a non-fat, or low-fat, cow's milk kefir where the fat floats to the top and is easily separated. Raw cow's *or* goat's milk is much more easily digested than pasteurized.

Food-Combining Rules for Kefir

Make kefir with the freshest milk possible (raw is best), then add:

- Raw or lightly steamed vegetables (try a salad with our kefir dressing recipe, or use our recipe to make a kefir dip for raw veggies)
- Acid (sour) fruits such as strawberries, lemons, limes, grapefruits, pineapples, cranberries, or blueberries
- Soaked nuts or seeds

Kefir smoothies are especially delicious and very popular as a breakfast for children. In the beginning the non-alcoholic flavorings work well, but as your child becomes well, you can add acid fruits. Simply blend kefir, your favorite berries or flavorings, and stevia. A little unrefined flax seed oil is a "must" for children ... especially those with eczema and ADHD.

To ensure that kefir is not overly mucus-forming, do not combine it with animal proteins (nuts and seeds are fine) or starches.

Around the world, however, kefir is eaten throughout the day, even as a digestive aid after a meal. While we do not recommend this, see what works for you. Some people think that eating kefir about an hour before bedtime helps them relax and fall asleep. Remember, it is rich in tryptophan.

In the chapter on food combining, we recommended you wait three hours after eating dairy foods before dining on animal protein or starches. However, because kefir's protein is pre-digested and the friendly yeast and bacteria speed up digestion; you need only wait about 45 minutes to an hour before eating something else.

Kefir makes a great morning meal. It's a much better breakfast for American children than the traditional bowl of cereal or Pop-Tart.

Ingredients of a Spectacular Kefir Drink

Make your kefir with the freshest milk possible, then add as many of the following ingredients as you wish:

- Up to 1 Tbsp. of unrefined oil or oil blends, flax seed oil, roasted pumpkin seed, or Essential Woman (Barlean's).
- A pinch of sea salt ... to balance out the fats and for alkaline balance.
- Lecithin granules to taste. Lecithin assists in the digestion of fat. If you make kefir from skim milk, the only fat will come from the unrefined oil. However, the beneficial microorganisms prefer a little fat, so 2% or whole milk makes a better-tasting kefir.
- Fiber (flax seed), acidophilus, bifidus, and Body Ecology'S Eco Bloom (food for the friendly bacteria) would be excellent additions.
- Probiotics, if you are taking them currently.
- Natural flavorings or herbs, such as nutmeg, cinnamon, or non-alcoholic vanilla or fruit flavorings (peach, strawberry, lemon, lime, raspberry, orange, tangerine).
- Non-caloric sugar substitutes such as stevia.

Is Kefir Right for Me?

Some people believe that milk and dairy products should be eaten only by newborns, and that since no adult animals in the wild drink milk, we adult humans shouldn't either. Others have an ethical objection to dairy products. You need to decide for yourself.

Perhaps you will achieve such great results with kefir that you will want to continue on it indefinitely. Or you may want to use it for a short period of time, being mindful of its mucus forming effects. Or maybe two to three times a week is best for you.

Studies show that cultured foods such as raw vegetables, kefir, or miso and tempeh in the more traditional Asian diet are key components in a genuinely healthy diet. It is wise to keep recolonizing the intestinal tract with beneficial bacteria from the day we are born to the day we draw our last breath. Research shows that beneficial bacteria disappear from the stool once probiotic products or foods are discontinued.

We would not recommend anything that we haven't found to be superior in helping people heal, but we also know how important it is to trust the wisdom of what your own body tells you. Learn to listen to its signs and signals.

A Word of Caution: Constipation

Even though kefir is traditionally recommended as a laxative, a small percentage of people find it constipating. This may be because they lack the enzymes necessary to digest the milk protein (casein) or the milk fats. Try making your kefir from non-fat, organic milk and taking enzymes (Body Ecology's ASSIST Dairy & Protein, pancreatin, or hydrochloric acid with pepsin). Milk is also slightly dehydrating. Try diluting four ounces of kefir with several ounces of water and drinking this small amount in the morning on an empty stomach.

Be sure to add other probiotics that thrive in the small intestine and colon, especially acidophilus and lactobacillus and various bifidus strains. Expect them to take two to three weeks to bring about an improvement. With time, more dairyloving bacteria and yeast will colonize your digestive tract. Once this happens, you can digest dairy better.

A little-known fact you may find extremely useful is that serotonin, the brain chemical linked to mood, is actually manufactured principally in the gut. When your serotonin levels are low, depression and constipation occur (since serotonin also influences peristaltic movement).* Kefir, rich in tryptophan that converts into serotonin, has cured many of depression and constipation. However, when serotonin levels are too high, constipation will occur. Drinking too much kefir can slow peristaltic movement and may be the cause of constipation. Anti-depression drugs also cause constipation and other gut problems since they stop the gut from shutting down production of serotonin and allow too much of it to continually circulate in your bloodstream. *Kefir* in Turkish means to "feel good." Now you know why.

If you become constipated after adding kefir to your diet, ask yourself these questions:

- *Am I drinking enough mineral water?* Milk is dehydrating
- *Am I eating enough fiber?* Kefir lacks fiber, so be sure to eat plenty of the high-fiber foods:

raw vegetables (fresh and cultured), salads, and the Body Ecology grams.

- *Am I following the food-combining rules?*
- *Am I drinking too much kefir and skipping other meals?*
  Since kefir is so delicious and is the perfect "fast food;' it is easy to overindulge in it, skipping essential highfiber meals.
- *Am I eating sugary foods and flour products?* Both are cons ti pating.
- *Am I deficient in magnesium?* Milk is rich in calcium and phosphorus (for bone development) but only has a very small amount of magnesium (needed to assist in the assimilation of the other two minerals). Consuming a dairy food will increase calcium and phosphorus levels only, creating a greater calcium/ magnesium imbalance. Deficiency in magnesium is a major cause of constipation. Increase your intake of magnesium-rich foods and even take magnesium supplements.

Teeth

A final reminder: brush your teeth after you eat or drink any milk product. The milk protein can cause plaque that can lead to decay (just as any food left in the mouth without proper rinsing and care can lead to decay).

Vitamin C

If you have a cold or other condition that creates a lot of mucus, such as an ear infection, stop your kefir and start taking therapeutic doses of vitamin C (several thousand milligrams per day, to bowel tolerance).

Where Can I Get Some Kefir?

Milk kefir made right in your own kitchen is not only delicious, it's economical and fun to make. **You'll also have a choice of the quality and kind of milk to use. Choices include non-fat, 1%, 2%, or whole cow's milk; goat's milk; soy milk; and even raw milk (if available). The great news is that homemade kefir is also unbelievably easy. Just warm the milk, add the starter culture, shake or stir, then cover it and let it sit for 24 hours on your kitchen countertop.** You'll know it is ready when the milk turns thick and you could stand a toothpick up in it. Then, shake your kefir briskly and refrigerate it to stop the fermentation process. If you leave it for several hours longer, it will start to turn into kefir cheese.

Of course, there are times when you may want to simply purchase your kefir. Carefully read the label to make sure a product labeled kefir is true kefir with yeast. **Kefir produced by Helios Nutrition is the only kefir that carries our Body Ecology seal of approval. Helios Nutrition makes a wonderful, truly organic kefir with chicory inulin, a medium- and long-chain FOS** (food that encourages the growth of lactobacillus and bifidus microorganisms). The plain flavor (unsweetened) is the one to buy when you have candidiasis.** Plain is delicious, but you can change the taste simply by adding one of the nonalcoholic flavorings with stevia found in your health-food store.***

Points to Remember about Kefir

• To obtain a microbial-rich, potent kefir, make a new batch every day or two. Use the freshest organic milk you can find to ensure high quality and good flavor.

• Kefir is the healthy equivalent of a "fast food." It provides a filling meal that is nutrient-rich and easy to digest. Its high liquid content makes it an ideal breakfast food, since it's best taken on an empty stomach.

• In Europe and Russia, babies begin drinking kefir diluted with water at four months of age. The Russians know that kefir helps build a strong immune system. Upon arriving at school, every child is offered a glass of plain kefir compliments of the government. Wouldn't it be wonderful if American schools and day-care centers were as savvy?

• If you are lactose intolerant, try kefir. The yeast and bacteria in kefir digest the milk sugar lactose. Any remaining is taken care of by the lactase enzymes. After reestablishing your inner ecosystem, you may find that you can more easily digest other dairy foods.

Notes

* Read *The Second Brain: A Groundbreaking New Understanding of Nervous Disorders of the Stomach and Intestine,* by Dr. Michael Gershon.

** FOS feeds friendly bacteria and enhances calcium and magnesium absorption. Please be aware that short-chain FOS, commonly used in many products, feeds klebsiella and candida. Body Ecology and Helios Nutrition . use chicory inulin Frutafit from Imperial Sensus, a medium- and long-chain FOS that is safe for candida.

*** Kefir starter culture is available by calling 1-866-4BE-DIET. Helios Nutrition kefir is available in fine health-food stores, or by calling 1-888-3HELIOS.

GOT KEFIR?

Source: http://www.mothering.com/community/t/203282/got-kefir

At the Request of several mammas, here is a thread devoted JUST to creative ways to use up that KEFIR which I know some of us are having a 'time of it' drinking it straight up and all by our lonesome...

For those of you yet to get some grains...you might ask:

Just what is Kefir?

Kefir is a cultured, enzyme-rich food (usually dairy milk) filled with friendly micro-organisms that help balance your "inner ecosystem." More nutritious and therapeutic than yogurt, it supplies complete

protein, essential minerals, and valuable B vitamins. While yogurt provides your digestive system with friendly bacterium as long as you eat it, Kefir helps to repopulate it for good!

Kefir is simple and inexpensive to make at home.
Kefir is used to restore the inner eco-system after antibiotic therapy.
Kefir can be made into a delicious smoothie that kids love.
Kefir is excellent nourishment for pregnant and nursing women, the elderly, and those with compromised immunity.

What if I'm lactose intolerant, don't do dairy or don't digest milk products well - is kefir right for me?

The beneficial yeast and friendly bacteria in the kefir culture consume most of the lactose (or milk sugar). Eat kefir on an empty stomach first thing in the morning before (or for) breakfast and you'll be delighted to find it can be easily digested -- as numerous people who have been lactose intolerant for years have discovered.

Kefir's tart and refreshing flavor is similar to a drinking-style yogurt, but it contains beneficial yeast as well as friendly 'probiotic' bacteria found in yogurt. The naturally occurring bacteria and yeast in kefir combine symbiotically to give superior health benefits when consumed regularly.

How is Kefir Made?

Kefir can be made from any type of milk, cow, goat or sheep, coconut, rice or soy. Although it is slightly mucous forming, the mucous has a "clean" quality to it that creates ideal conditions in the digestive tract for the colonization of friendly bacteria.

Kefir is made from gelatinous white or yellow particles called "grains, that look like little pieces of cauliflower." These grains contain the bacteria/yeast mixture clumped together with casein (milk proteins) and complex sugars.

They look like pieces of coral or small clumps of cauliflower and range from the size of a grain of wheat to that of a hazelnut. The grains ferment the milk, incorporating their friendly organisms to create the cultured product. The grains are then removed with a strainer before consumption of the kefir and added to a new batch of milk.

To culture milk with 'LIVE Kefir Grains',

Add your 'grains' to a clean glass container (mason jars work well) of milk, and cover or lid the jar. You let this sit at room temperature for 12-24, up to 48 hours. Then you gently strain the resulting Kefir'd milk from the grains, and add the grains to a fresh amount of milk, and repeat brewing cycle. It is suggested to use a non metal strainer, to capture the grains. You may use raw milk, or store bought milk. Organic milk is suggested!

Ratios of grains to milk vary, but for a good TBS size piece or portion of grains, you can usually add 2-4 cups milk. If in 12 hours the milk starts separating into a clearish layer and a thick, cheesy curdy looking layer, that is fine and perfectly natural. You are either brewing too long or not using enough milk. It is

still fine to drink. Use a plastic or silicon spoon/spatula to stir the 'whey' back into the 'curds' and then strain out your grains. The 'kefir' might be a bit on the tart side, but it's fine. Use one of the smoothie recipes to make it sweeter or use the kefir as buttermilk in baking. 

Ready-Made Kefir

If you prefer to purchase ready-made kefir at your health food store (in this form it is perishable and would be found in the refrigerated section). Helios is a really good, organic brand.

How to Introduce Kefir into Your Diet

Some people thrive on kefir right from the start and others may need to proceed more slowly. Remember that people with candidiasis usually lack enough 'good' milk-digesting bacteria, so you may have to build up your "tolerance" of kefir. Start with about four ounces in the morning on an empty stomach. Every second day increase the amount until you are able to drink a full eight ounce glass.

Moreover, people with candidiasis have what Chinese medicine calls the condition of dampness. Unfermented and improperly combined dairy products can lead to even more dampness and excess mucus. Here are some suggestions for introducing kefir while conquering dampness:

1. Drink plenty of water and eat grains that have been soaked and then cooked. These add moisture and fiber to the colon.
2. Clean your colon. If a colon is free of blockages, kefir is tolerated more quickly. We have found that people, who report having trouble with kefir, often have not followed advice on colon cleansing.
3. Be sure to get adequate exercise. Exercise stimulates the colon and improves elimination. Even just walking daily will assist in this goal.

The Benefits of Consuming Kefir Regularly in the Diet

Easily digested, it cleanses the intestines, provides beneficial bacteria and yeast, vitamins and minerals, and complete proteins. Because kefir is such a balanced and nourishing food, it contributes to a healthy immune system and has been used to help patients suffering from AIDS, chronic fatigue syndrome, herpes, and cancer.

Its tranquilizing effect on the nervous system has benefited many who suffer from sleep disorders, depression, and ADHD (attention deficit hyperactivity disorder).

The regular use of kefir can help relieve all intestinal disorders, promote bowel movement, reduce flatulence and create a healthier digestive system. In addition, its cleansing effect on the whole body helps to establish a balanced inner ecosystem for optimum health and longevity.

Kefir can also help eliminate unhealthy food cravings by making the body more nourished and balanced by allowing the body to remove and process MORE of the needed nutrients in your foods . Its excellent nutritional content offers healing and health-maintenance benefits to people in every type of condition.

Why Kefir and not just Yogurt?

Both kefir and yogurt are cultured milk products...but they contain different types of beneficial bacteria. Yogurt contains *transient* beneficial bacteria that keep the digestive system clean and provide food for the friendly bacteria that reside there. But kefir can actually *colonize* the intestinal tract, a feat that yogurt cannot match.

Kefir contains several major strains of friendly bacteria not commonly found in yogurt, Lactobacillus Caucasus, Leuconostoc, Acetobacter species, and Streptococcus species. It also contains beneficial yeasts, such as Saccharomyces kefir and Torula kefir, which dominate, control and eliminate destructive pathogenic yeasts in the body. They do so by penetrating the mucosal lining where unhealthy yeast and bacteria reside, forming a virtual SWAT team that housecleans and strengthens the intestines. Hence, the body becomes more efficient in resisting such pathogens as E. coli and intestinal parasites.

Kefir's active yeast and bacteria provide more nutritive value than yogurt by helping digest the foods that you eat and by keeping the colon environment clean and healthy.

Because the curd size of kefir is smaller than yogurt, it is also easier to digest, which makes it a particularly excellent, nutritious food for babies, invalids and the elderly, as well as a remedy for digestive disorders.

More than just Beneficial Bacteria!

In addition to beneficial bacteria and yeast, kefir contains minerals and essential amino acids that help the body with healing and maintenance functions. The complete proteins in kefir are *partially digested* and therefore more easily utilized by the body. Tryptophan, one of the essential amino acids abundant in kefir, is well known for its relaxing effect on the nervous system. Because kefir also offers an abundance of calcium and magnesium, which are also important minerals for a healthy nervous system, kefir in the diet can have a particularly profound calming effect on the nerves.

Kefir's ample supply of phosphorus, the second most abundant mineral in our bodies, helps utilize carbohydrates, fats, and proteins for cell growth, maintenance and energy.

Kefir is rich in Vitamin B12, B1, and Vitamin K. It is an excellent source of biotin, a B Vitamin, which aids the body's assimilation of other B Vitamins, such as folic acid, pantothenic acid, and B12. The numerous benefits of maintaining adequate B vitamin intake range from regulation of the kidneys, liver and nervous system to helping relieve skin disorders, boost energy and promote longevity.

Ok, so hopefully you are now 'stoked' about Kefir and want to get some of this wonderful stuff! So stay tuned for a VARIETY of ways to get this stuff in your tummy!

KEFIR BREWING INFO SHEET

Brewing Directions:

In a clean, wide mouth glass container (ie, a mason jar is wonderful), place these grains and 1 cup milk (whole, 2%, skim, pasteurized or not, homogenized or not – organic is preferable, though).

Start with a small amount of milk (like 1 cup), you can increase it over a few days time, as your grains grow (it may take weeks to noticeably grow or a matter of days, depending on the temperature of where you have them 'brewing' and how much they need to adjust to your brand of milk).

Place a lid on the jar or a cloth with rubber band to keep it on tight. Leave sitting on your countertop, out of direct sunlight for 12 - 24 hours.

During the brew time, gently swirl the jar to make sure the grains are 'bathed' with the milk and this will help feed them and convert the milk to Kefir. You can omit this 'swirling of the jar', and it will turn out fine, especially if you are using the smaller amount of milk. Just give it a gently 'swirl' in the morning to make sure it looks like all (most) the milk was 'converted'.

12 - 24 hours later, depending on milk to grain ratio and ambient temperature in your kitchen, you will have 'real' Kefir. It will be a bit tart and tangy. You will need to adjust the 'brew' time to get it to taste best for you. Less time will be less tart and more 'yogurty', longer will be sourer tasting. Just prior to straining, I stir the contents with a silicon spatula or spoon. Definitely use a plastic utensil and NOT metal. This makes straining a little easier as it breaks up any large 'curds' that have formed and makes it a smoother Kefir.

Straining:

Use a non metal strainer (I found a nylon 'tea strainer' made by 'Tea Republic' that I love, it catches all the grains, and I can gently rub a silicon spatula back and forth, and the Kefir milk strains into a new mason jar and is super creamy and smooth.

After straining off the liquidy 'Milk Kefir', the Kefir grains (which might still have some 'curds' clinging to them, but this is ok) are placed straight back into a pre-washed and room temp mason jar or fermenting vessel of choice, without rinsing the grains.

Fresh milk is added to the grains to prepare the next batch and a lid/cloth is put on. The strained kefir is either consumed fresh, immediately, or poured into a sealed container and stored in the refrigerator (will keep up to a few weeks or longer). It can also be stored on your counter top for 1-2 more days at room temp to help reduce lactose content, then refrigerated and used.. Eventually you will notice the grains increasing in mass, and you can add more milk to the jar for brewing or remove some of the grains to give away or make a 'back up' copy.

Short Term Kefir Storage:

Put your grains in a glass jar of milk with a lid on it (~a cup milk per 1-2 TBS grains)
Store in the refrigerator for up to a week.

Longer Term Kefir Storage:

By straining off the refrigerated, kefir'd milk at least once a week, and replacing with fresh milk, you can usually extend the 'refrigerator' storage method indefinitely. I would try to get them reactivated a few times a year, though…just to be sure. The longer you do this, the more chance of the grains dying or becoming inbalanced from loosing too many of their unique cultures.

Freezing Kefir Grains:

Rinse off your grains with clean, filtered water. Pat dry and place on a paper towel or clean tea towel to allow to dry.

Place your grains in a jar or plastic baggie and freeze for up to one year, but you might only want to do it for a few months, as the yeast component can completely die off using this method. The Dom suggests adding powdered milk to coat the grains to help protect them, but I do not use powdered milk and do not have any in the house. It might take up to two weeks to get them active again, once you thaw them.

Drying Kefir Grains:

Kefir grains may be dehydrated to store long term (a year or so).

Prepare the grains, as for freezing, then as they dry on the paper towel, or tea towel, allow them to continue drying in a well ventilated, warm spot (maybe on the top of your refrigerator?) for up to 3 days or longer for large grains. They will become smaller, hard and yellow looking. Store in a plastic baggie, or in a glass jar, in a cool dry spot or in the refrigerator, once you know they are well dried.

Reactivating Frozen and Dried Kefir Grains:

To reactivate frozen and dehydrated kefir grains, place in a glass jar with cool water and soak for a few minutes. Rinse them off in a strainer to get out any powdered milk if you used it. Place them in a small amount of fresh milk, and allow to sit at room temp for 24 hours.

Every day change the milk and toss out the kefir milk (don't drink it yet). You will want the milk to be coagulating, and have a clean, yeasty smell (or like good buttermilk). Once that happens, you can start consuming your kefir and continue as for normal brewing, and increasing the amount of milk again. This process could take a few weeks to happen, to reactivate. Be patient and use smaller than normal amounts of milk until you are confident you have happy, active kefir cultures again.

MAKING YOUNG COCONUT KEFIR

Source: ***http://users.sa.chariot.net.au/~dna/kefirpage.html***

What moist and fresh young coconuts look like.	
Examples of old, moldy coconuts: The water inside may still be fine to ferment (see picture on page 2).	
Lay young coconut on its side and cut several thin slices from the bottom.	
A circle appears (often white, sometimes a brown ring). This indicates the soft spot or way into the sterile, sweet coconut water.	

Sometimes a hard knot makes it more difficult to cut through the coconut. Usually the hole is in or beside this knot.	
Poke down through soft spot, creating a hole in the coconut shell.	
Setting the coconut down into a sink, so "cone-shaped" head nestles firmly into drain makes this easier. Widen the hole with a carrot peeler, so water can pour out.	
Each coconut contains 1½ cups of liquid. Open 3-4 coconuts to obtain 1½ quarts.	

If the water is pink, do not use it (water on the right is spoiled, and so is the coconut).	
Pour Coconut Water through strainer into sauce pan. Ideally, Microflora prefer that the liquid be 92° F (31° or 32° degrees C), so be careful not to overheat.	
Use an inexpensive thermometer if desired, to check the temperature.	
Or wash your hands well and dipping your finger into the coconut water, test for the right temperature. At 92 , you won't feel hot or cold. It will be a neutral feeling or "natural feeling".	

Add Body Ecology's kefir starter or Body Ecology's culture starter to the heated coconut water. The culture starter contains plantarum, an antiviral bacteria, and the kefir starter contains lactobacillus and beneficial yeast.	
Put lid onto glass container and shake well!!	
Ideally the room temperature should be around 70°F to 75° F). If your room is colder you may want to place glass container into insulated storage. Kefir is ready in 36 hours (may vary with temperature).	
Once fermented, coconut water will become cloudy and lighter in color (left jar is fermented). (After fermentation is complete, you will want to refrigerate your kefir to extend its life. It should maintain its fresh flavor for about 3 weeks.)	

YOUNG GREEN COCONUT KEFIR

Source: *http://bodyecology.com/articles/coconutkefir.php#.UCA5t0RrcTl*

We would like to introduce you to our latest super food:

Young Green Coconuts

Order Coconut Water and Coconut Meat directly from Body Ecology!

Great discoveries often stem from a touch of serendipity and some creative experimentation. Don Kidson, owner of the Living Lighthouse (the raw foods center for the Los Angeles area), introduced Donna to the value of young green coconuts. Most Americans have seen and tasted the milk and meat of the mature (brown, hairy) coconut; a green coconut is really the same food, but it is just younger. Sometimes the green outer shells are cut off before they are shipped to U.S. markets. Look for either the green shell or a white "husk" if the outer shell has been removed. You may not see them in the produce section of your big-chain supermarket, but they are readily available in Asian, Latino, and other ethnic or farmers' markets. Many health food stores will carry them upon request.

Although the liquid of the young coconut has an abundance of minerals, Donna was concerned that it would be too sweet. Drinking it would make the body too acidic and encourage the growth of pathogens and cancers. The idea to add Body Ecology's kefir starter to this liquid and "culture it" kept popping into her mind. She knew it would be a perfect medium for the growth of beneficial microflora.

On a pretty summer night in Malibu, Donna, Don, and two close friends combined the starter and coconut water, let it rest for 24 hours, and were delighted with what they had created. All the sugar disappeared and a fizzy, sour, champagne-like drink, like a spritzer, was born. Donna and Don began teaching many people how to make this great new discovery, and the results were miraculous.

What People Say About Coconut Water Kefir

- It completely stops your cravings for sugar. Imagine the benefits of that!
- It aids digestion of all foods
- It has a tonifying affect on the intestines, even flattening the abdomen!
- It appears to cleanse the liver. In Chinese medicine the liver rules the skin, eyes, and joints. Coconut water kefir eases aches and joint pains. Many people report having a prettier

complexion. They experience the brown liver spots on the skin fading away and skin tags, moles, or warts drying up and disappearing. Vision also improves
- It contains high levels of valuable minerals, including potassium, natural sodium, and chloride, which explains why the hair, skin and nails become stronger and have a prettier shine.
- It appears to have a beneficial, cleansing effect on the endocrine system (adrenals, thyroid, pituitary, ovaries). Women find that their periods are cleaner and healthier; some who had experienced early menopause have found this important monthly cleansing returning again.
- It increases energy and gives you an overall feeling of good health.

Young green coconuts yield several delicious foods. You can ferment the water (not "coconut milk") into that delicious, healing kefir. You can also eat the very special meat. Soft, pudding-like, and technically a seed, this meat is high in protein, enzyme-rich, and very easy to digest. Like all seeds and nuts, it is a protein fat, but this seed provides an excellent source of lauric and caprylic fatty acids. You can scoop the meat out of the shell and eat it raw, or you can put it in a blender with enough water to make it the same consistency of guacamole and then ferment it. Just add our kefir starter, and in 24 hours, you'll have a sort of kefir "cheese," a fabulous fermented base for salad dressings, dips, or just plain eating as is. It's like eating yogurt, only it's dairy-free.

How to Crack Those Coconuts

First, remove the 1½ to 2 cups of water inside the young coconut and use it to make kefir. To do this, lay the coconut on its side and shave several layers off the bottom until a circle appears. If you keep on shaving, two more circles will appear and you'll have what looks like a face with two eyes and a mouth. Place the young coconut in your kitchen drain so that the point fits into the drain. (This just holds the coconut steady.) Take a sharp object like a carrot peeler or apple corer and poke it through the bigger (mouth) hole. Rout out the hole, making it bigger, and then flip the coconut over onto a glass jar to let the water pour out.

Use the water from about four coconuts with one package of starter, let it sit on the counter for 24-48 hours, and you're all set. You'll know it's done when the color changes to a milky white and usually there's a bit of bubbling or foam on top. This means all the sugar has been removed. When you drink it, make sure it tastes tart and tangy. This is another sign that all the sugar is gone. Donna swears by this wonderful new kefir, saying that she wouldn't be without it, despite her busy schedule. Its medicinal benefits are well worth the time it takes to make it!

Special Notes: You can use about 1/4 cup from your first batch to "transfer" the friendly bacteria to your next batch of kefir. Do this up to seven times with one package of starter. And when the weather turns cold, warm the liquid to about 90 degrees before adding the starter. Then place the glass jar into an insulated container so it will maintain a steady temperature of about 70 degrees while fermenting.

Getting to the meat of the coconut takes a little more work. We suggest cutting it in half with a fine-toothed Japanese wood saw called a PULLSAW. This tool is imported from Japan by Takagi Tools, Inc in Wilmington, California. It breaks into two parts and can be stored easily in your kitchen drawer or cabinet.

Ways to Enjoy Coconut Water Kefir

Remember, since you now have two more cultured foods in your healing arsenal, you can devise many different ways to eat them. A half cup of the coconut water kefir with meals greatly helps digestion. You can add ginger, stevia, lemon, and/or lime if desired. A half cup at bedtime will help establish a healthy inner ecosystem. Studies from Europe show that when you are lying still during sleep, the microflora reproduce faster. In the morning, combine a half cup of the young coconut water with unsweetened cranberry or black currant juice, as a great wake-up tonic. And in stage two of the BED when you start introducing a little fruit for breakfast, the coconut kefir microflora will happily enjoy the sugar in the fruit and leave you with its vitamins and minerals.

If you are lactose intolerant because you do not have dairy-loving microflora thriving in your inner ecosystem, begin adding them by drinking the coconut water kefir and eating young coconut kefir "cheese." You'll soon find yourself enjoying kefir made from organic milk as well.

SECRETS FOR MAKING THE PERFECT BATCH OF YOUNG COCONUT KEFIR WITH DONA GATES

Source: ***http://bodyecology.com/articles/secrets-for-making-perfect-young-coconut-kefir.php#.UCA6u0RrcTl***

Not all coconuts are created equal...and not all coconut waters are either! To find out how to select the best coconuts and coconut water for the perfect (and tastiest!) batch of young coconut kefir every time, learn 5 secrets (and 3 recipes) from Body Ecology founder Donna Gates.

These days, there is a buzz about young coconut water in the market prompted by Coca-Cola's interest in Zico. Young coconut water is clearly a hit, but before you buy the pasteurized boxed young coconut water, make sure to read: Young Coconut Water Goes Mainstream... But Know These Important Facts Before You Buy.

In the meantime, let's say you can't get access to young green coconuts (or maybe you don't want to spend time cracking them) and you don't live in an area where you can get Body Ecology Raw Young Thai Coconut Water. But Know These Important Facts Before You Buy. If you want to make your own young coconut kefir, you still can with the pasteurized coconut waters like Zico, Vita Coco or O.N.E.

The thing is, drinking young coconut juice that has been fermented into KEFIR has so many benefits, that we just want to encourage you to drink it.

But whether you use fresh coconuts, Body Ecology Raw Young Thai Coconut Water or boxed coconut water, there are some things you need to know so that every batch of coconut kefir turns out perfectly each time you make it.

Secret #1:

The best and easiest fermentation happens when you use either young green coconuts from Thailand or Body Ecology's Frozen-Fresh, Organic Young Coconut Water...also from Thailand. The reason is because they are truly the sweetest coconuts anywhere in the world. The sweeter the coconut, the better it will ferment. Our raw coconut juice from Thailand is rich in potassium and enzymes and contains sulphurated proteins that assist the body in cleansing. Body Ecology's Young Thai Coconut Water is even better because it's organic, which is a rare find in the market of young green coconuts.

Secret #2:

Not all young green coconuts can create a good-tasting batch of young coconut kefir. I used to live in Florida, where the young green coconuts are plentiful. Unfortunately, while they ferment well, the young Florida coconut water does not have the wonderful rich coconut taste that the Thai coconut has. It is kind of flat in comparison. What I found over the years is that the coconuts in other countries like Brazil or Jamaica just are simply not as delicious as the coconuts in Thailand.

Secret #3:

Not all young green coconuts ferment well. This surprised me too, but go to places like Jamaica and you'll find that their coconuts do not ferment at all. At least I have not been lucky with them. I've tried three times so far and haven't had a batch work for me once. ***Where*** you get your coconuts is key to creating a good batch of young coconut kefir.

Secret #4:

Some young green coconuts are exposed to wild fermentation. If you leave a young green coconut out in the open air, *wild yeast will come to eat the natural sugar* present in the coconut water. The result? Wild fermentation. Many people do poorly on wild fermentation. Some examples of wild fermentation are: wine, kombucha and sourdough bread. Wild fermentation is different from what we do here at Body Ecology. When we ferment we know exactly what the bacteria and yeast are in our starter cultures. These microflora we supply you with are the ones known for thousand of years to thrive in a healthy inner ecosystem. They are the microflora you can trust to build immunity and overall health. With our Starters, you have control over the kinds of beneficial microflora that go into the liquid you are fermenting, whether you are fermenting coconut water or cow and goat milk.

You will notice that all the commercial, boxed coconut waters are pasteurized. They have to be...otherwise, they would explode. This is because the wild yeast inside the unpasteurized water would cause the container to expand too much and burst open. We've solved that problem with our Body Ecology Raw Young Thai Coconut Water. But Know These Important Facts Before You Buy. because we freeze it just after picking to lock in the freshness. So it goes right from the tree to the frozen section of your local grocer.

Just Drink It! If you want young coconut kefir's healing benefits, you can easily make your own with Kefir Starter. . Just add the Kefir Starter and you'll get a probiotic-rich beverage full of vitamins, minerals and enzymes. Learn more about Kefir Starter and order it now! Or go for convenience with ready-made Coco-Biotic.

Secret #5:

Boxed young coconut water does not ferment well. As I looked into coconut waters, here's what I learned: the coconut water producers typically want the MOST water out of each coconut. This makes sense from a business perspective, but unfortunately, the *very* young green coconut, which has the most water, also has the LEAST amount of natural sugars. Thus it won't ferment as well because you must have sugar for the microflora to grow. This is why most people have trouble making a good batch of young coconut water with pasteurized boxed coconut water like Zico, Vita Coco and O.N.E. See below for tips on how to overcome this problem.

How To Make Young Coconut Water with Boxed, Pasteurized Young Coconut Water

While this is not our first, second or third recommendation for making young coconut kefir, if using boxed, pasteurized young coconut water is your only choice, then here's how to get the water to ferment:

This tip comes from our Body Ecology followers in England, where they do not have access to young green coconuts or fresh coconut water.

- Using the boxed, pasteurized coconut water, add 1 teaspoon of sugar to 1 liter of coconut water (the typical size of most of the larger boxed coconut waters).
- Add one packet of Kefir Starter. You are now making your "initial starter batch."
- The added sugar will help your young coconut kefir ferment and the microflora will consume these extra sugars.
- Use ¼ cup of this first batch to inoculate future batches (up to 7 transfers are possible).
- Alternative Tip if You CAN get access to young green Thai coconuts: Here's what I also discovered for those of us living here in the US where most of us have no problem purchasing the young Thai coconuts. (In health food stores and Asian supermarkets.) You can also improve the fermentation of the ***boxed*** coconut water if you ***add*** **the juice of just *one fresh coconut* instead of the sugar.** In other words, the juice of just one fresh coconut will provide enough sugar to make a nice finished product...and you only have to open one coconut. So easy!

Recipes for Making Your Young Coconut Kefir Taste Delicious:

- Drinking young coconut kefir with meals greatly helps digestion. Here's a nice young coconut kefir spritzer with lunch or dinner:
    - Start with ½ cup young coconut kefir.
    - Add the juice of ½ lemon or ½ lime.

    - Add 3 – 5 drops of Stevia to taste.
- Enjoy a sweet antioxidant-rich wake up tonic:
    - Mix ½ cup young coconut kefir with unsweetened cranberry or black currant juice concentrate (you can get this in most health food stores).
    - Add 2 – 3 drops of Stevia and enjoy!
- Ginger Ale – make this recipe for homemade ginger ale and add 2 oz. of young coconut kefir for a truly delicious and energizing drink anytime of day!

I'm all for making it easy to drink young coconut kefir so we made a lot of effort to obtain a source of **raw, certified organic, young Thai Coconut Water. Iffreshly picked and organic is important to you, you'll love our just-off-the-tree coconut juice.** Right now, 36 stores on the West Coast (yes, even Whole Foods Markets) are carrying our coconut water and coconut meat in their freezer section. In 2010 you can expect to see it in your area and it will help us speed up the distribution process if you request it from your local health food store (Tell them to order it thru UNFI.)

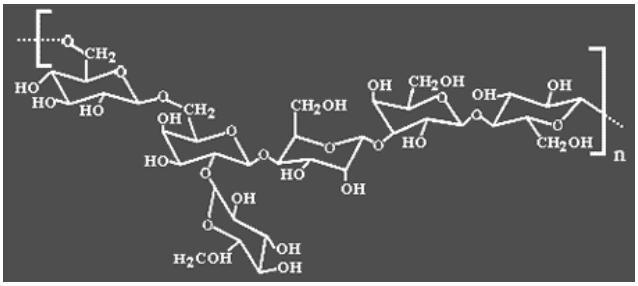
And by the way, we also have raw, organic coconut spoon meat or "jelly" as well...so no more scrapping it out of the shell.

Stay tuned next week for one of our favorite recipes: coconut pudding with almond whipped cream!

If you want access to the healthiest organic, raw coconut water on the market, ask your local health food stores and grocery stores to carry Body Ecology Raw Young Thai Coconut Water.

KERIRAN IN DETAIL

Source: *http://users.sa.chariot.net.au/~dna/kefirpage.html*



KEFIRAN in DETAIL

+ Health Benefits of Kefiran, Kefir-Grains + Kefir

Presently, the complete mechanism involved in the construction of kefir grains, is not well understood at a scientific level, although there appears to be increasing interest in this area. A unique soluble polysaccharide [PS] was first discovered in milk kefir-grains by La Rivière JW *et al* [1967] and was given the name **kefiran** [KGF-C].[1a] Cultured in milk, the PS is produced at the centre of the grain, where anaerobic [no freely available oxygen] conditions are favourable for kefiran synthesis in the presence of ethanol alcohol.[2] Kefiran is synthesized by encapsulated homo-fermentative lactobacilli species ***Lb. kefiranofaciens* subsp. *kefirgranum* subsp. *nov*** and ***Lb. kefiri*** , previously classified as ***Lb. brevis*** and possibly other strains produce kefiran or similar PS. By weight, freeze-dry kefir grains consist of some 45% kefiran. The PS is composed of two mono-saccharides or single sugars; D-glucose and D-

galactose in almost equal proportion. Kefiran's adhesive property is possibly what holds the matrix together, adhering protein, amino acids, fats, and the microflora complex as a biological mass.

The molecular structure of kefiran is not fully understood. It is proposed to be a branched hexa- or hepta-saccharide repeating unit. In itself, the unit is composed of a regular pentasaccharide, to which one or two sugar residues are randomly linked. The variety of linkage-types of the molecule may be the reason why kefiran is resistant to enzyme attack[2a] [Kefiran appears to be reasonably inert to digestive enzymes]. This property might be important in the ecological stability of the kefir grain, including the therapeutic activity of kefiran, due to the PS remaining reasonably chemically stable through the process of fermentation including gastric digestion.

Chair form diagram of the proposed molecular structure of kefiran [2a]

There are other strains of Lactobacilli capable of producing a similar polysaccharide, ***Lb.* sp. KPB-167B** being one such organism. This, including other species of Lactobacilli, which produce either kefiran or a similar form of PS [with slight variation between glucose and galactose ratio, different molecular weights including variations in the optical rotation of the molecule] produced at variable rates, or, the amount of, may be mechanism[s] involved in the natural tendency for each grain to propagate as an enclosed multi-lobular body. This is possibly due to the layout of different strains, or type-strains of encapsulated organisms included among yeasts, arranged at specific locations as layers or branched within the matrix. Stress factors due to culture-conditions or the structural makeup of the matrix itself, or how and where the encapsulated organisms are located may incur the same strain of encapsulated organism to produce either variable amounts of kefiran, or a variation of the PS.

Multi-therapeutic activity of Kefiran, Milk Kefir-Grains and Kefir

Experiments performed with mice [against mice really, if we think about it], revealed kefiran exhibited anti-tumour properties. In these experiments, orally administered kefiran was found to reduce the size of certain tumours, by inducing a specific immune response in mice. Much of this early research was performed in Japan.[3-6]

Recent research evaluated kefir grains induced a systemic anti-inflammatory response in kefir-grain fed rats.[7] The author [Dominic Anfiteatro] initially discovered the anti-inflammatory property of milk kefir-grains, through the implementation of rectal injections [implants] and retention including the ingestion of an adequate amount of kefir grains to successfully correct Ulcerative Colitis in his case [1999]. The anti-inflammatory effect was later investigated and correlated scientifically [Prof. Schneedorf JM. *et. al.* 2003]. The author has published a web page explaining the protocol implemented to correct Ulcerative Colitis in his case, including other individuals over some years, here.

More recently, the author observed another discovery. The ingestion of 1/3 cup of milk kefir-grains taken daily over 7 days, benefited 3 cases [one being the author] where the individuals suffered from pain associated with Repetitive Strain Injury [RSI] along the outer right arm and upper right shoulder area. The cause was due to excessive use of a computer keyboard and mouse-clicking over some years. These latter findings further suggest the systemic anti-inflammatory property of kefir-grain kefiran. Quite possibly kefiran activity in conjunction with organisms of the grain, encourage a systemic benefit via multiple components or vehicles, rather than the action of a single component.

A study on the effects of kefiran in laboratory rats showed kefiran can significantly suppress increased blood pressure and also reduce serum cholesterol levels in SHRSP/Hos rats, when subjects consumed excessive dietary cholesterol. The study also explains kefiran supplementation had the ability to significantly lower blood glucose in KKAy mice. In addition, the administration of kefiran in constipated SD rats caused an obvious improvement in the levels of faecal moisture content and wet weight of faeces.[8] The latter is obviously useful for correcting constipation.

A recent study in China found kefir extracts have a preventive effect against human breast cancer cells, without effecting healthy human breast cells. The consumption of kefir modulates the immune response, implying that kefir contains bio-active bacteria and compounds that enhance communication in the body's immune system.[8a]

Similar research in Japan found that kefiran-fed rats had a serum cholesterol lowering effect in 2 rat models 1, loaded with cholesterol and 2, given orotic acid. Kefiran accelerated sterol excretion and protected hepatic injuries (glutamate oxaloacetate transaminase [GOT], glutamic pyruvic transaminase [GPT]) in both rat models. It was also discovered that histamine excretion decreased in the caecum content and faeces, suggesting that kefiran has various preventative functions,[25] the mechanisms of which are not yet well understood.

Other research found that kefir stimulated body cells to produce 14 times more Interferon-beta, a vital glycoprotein excreted by body cells to combat viral infection, and possibly combat cancer cells. The active substance in kefir in this case, which other fermented milk contain, was found to be sphingomyelin [SpM].[8b] However, interferon-beta stimulation by SpM in other culture milk-products including yogurt only increased body cell to secrete 2 to 3 times more than normal activity.

Over the past 10 years, the author has received multitudes of testimonies by email and through his internet lists from individuals of all corners of the globe, expressing how kefir has markedly help to improve their health and well being. Kefir has helped with many different conditions. Recently, a local individual shared with a friend a suggestion I explained to her, which is also included in my book. After her friend followed through with rectally injected and retained kefir grain implants, she experience a sure cure from the previous medical condition of Celiac [Gluten intolerance]. This positive feedback is quite encouraging to state the least. We are observing long term effect of this recent outcome.

The combination of all the above, suggests that kefiran, and in fact kefir grains and kefir are useful as functional food to prevent or control common occurring diseases of the modern age. This further reinforces what the author has suggested for many years, that the regular ingestion of kefir grains, should be considered of greater, practical importance and especially appreciated by individuals preparing traditional kefir for themselves at home, school or their place of work [and why not make kefir at school or at work?!].

As an end note, kefiran is also useful as a natural gelling agent, for thickening food. The author explains many examples for the possible use of kefir grain kefiran in the preparation of wonderful textured baked goods such as wholemeal sourdough bread, cakes, pretzels and pastry. For ice-cream making, for thickening yogurt and more. This extends to the use of kefir grains or kefiran in the preparation of natural cosmetics, for skin care products such as moisturizers, and skin conditioners or toners etc.

Misleading information on the internet about Kefiran misrepresented as Kefir-Whey or visa versa

There misleading information regarding to kefir and kefir grains on the internet. One example, the separation of kefir-whey through fermentation of milk with kefir grains to produce traditional kefir. An individual is suggesting that the clear liquid is solely kefiran released from kefir grains in milk. This information is incorrect. The pale yellow or straw coloured clear liquid is simply whey, or kefir-whey in the case with kefir. Although kefir-whey does contain a very small percentage of kefiran, because the PS is water soluble, but by no means is the liquid portion pure kefiran. The process of fermentation of milk, creates an acidic environment, which separates [precipitates] the milk protein [casein or curd] in solution, creating a mixture of a thick, white mass of curds among a pale yellow solution -- **kefir-whey**, which shouldn't be mistaken for pure kefiran.

WATER-KEFIR A NON-DAIRY KEFIR

Source: ***http://users.sa.chariot.net.au/~dna/kefirpage.html***

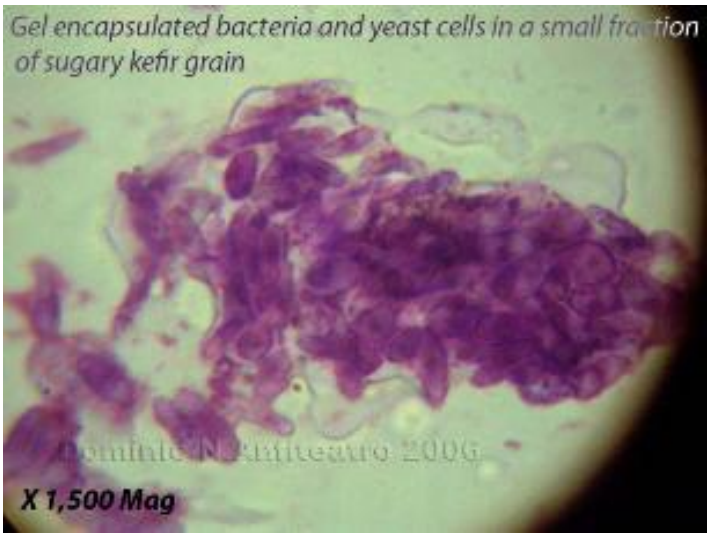


Photo of a tiny fraction of a sugary kefir-grain [SKG] magnified 1,500 times, revealing encapsulated lactic acid bacteria [LAB] and yeast cells among a transperant dextran matrix. This sample was prepared with Differential Stain to distinguish the organisms.

Apart from traditional dairy-milk fermentation, with some adjustment, milk kefir-grains may be cultured in alternative media e.g., Soy milk, Seed & Nut milk or coconut milk. The natural mother-culture may also be used to prepare other interesting alternative cultured-products, all of which shared throughout my web pages were pioneered and developed by yours truly [let facts be known].

There is a variety of a refreshing effervescent beverage, often referred to as Kefir d'acqua [link to recipe] or **water-kefir**, which is commonly prepared with a different variety of kefir grains, referred to as **water kefir-grains** or **sugary kefir-grains** [SGK]. See table below for alternate names. SKG are cultured in 3% to 10% sugar/water solution with a slice of fresh lemon, dry fruits such as fig, apricot or raisins to provide flavour and increase nutritional value.

SKG consist of a polysaccharide [linked or chained dextran made up solely of glucose].[9] Similar to a dynamic or **symbiotic** relationship between different types of organisms to synthesise kefiran in traditional milk kefir-grains, the dextran of SKG is produced through the same relationship among Lactic acid bacteria and yeasts, embedded in the grain.

Scientists are surprised by the ability of the organisms of SKG to ferment a media, **poor** in **nitrogen** and **growth-factor** source, doing so over many years without modifying the balance between the different microorganisms.[10] Traditional SKG have an opaque texture in comparison to traditional milk kefir-grains of Caucasus. The grains are firm, transparent and fragile; they easily break apart with little applied force. SKG are not gel-like or slimy in consistency to milk kefir-grains nor are they white in colour. The unique property of SKG is produced by *Lactobacillus casei*, which is believed to **condense** the polysaccharide into a **non-soluble** form. Where as the polysaccharide of milk kefir grains, **kefiran**, is **water soluble**. Another organism, *Lactobacillus brevis* including other strains, can reproduce [and some may possibly synthesize polysaccharides] in sugar-solution containing up to 15% alcohol.

Ginger Beer Water Kefir I have discovered the addition of 2 to 4 tablespoons of fresh ginger root juice per 8-cups of sugar solution, produces what one of my list members referred to as a **marvelous** ginger root beverage similar to ginger beer. SKG grow well with added ginger root. I have come to the hypothesis of the possibility that SKG may well be the **original** mother-culture for preparing ginger root beer. I came to this conclusion for the fact that today among ginger beer brewers, it is common to prepare what is referred to as a **Ginger Beer Plant**. This is by mixing sugar, ginger root powder and active brewers or bakers yeast, and feeding the so called ginger beer plant with the addition of more sugar and ginger root powder each day, over 7 days. This mother-culture [Ginger Beer Plant], is added to a large volume of sugar/water and a little lemon juice, and brewed for a number of days. This is followed by bottling and storage to produce a root beer with natural carbonation.

It is suggested that SKG were brought back by English solders on their return from the Crimean War, and the mother-culture was originally referred to as a Ginger Beer Plant. If this was the case, then quite possibly due to the lack of SKG, someone along the line with an understanding in basic fermentation, may have decided to prepare a variety of the plant as a substitute for the real deal [SKG], as explained above [Just as I recognised that milk kefir-grains can be substituted for SKG to produce a variety of water kefir, because I did not have SKG in early part of 1980s--- necessity is the mother of invention].

I discovered that when first including fresh ginger root juice to brew SKG that were not previously brewed with ginger, and those SKG were only just acquired from another source, and which were only growing 5% to 10% by weight per each 2-day brewed batch, initial growth of the grains over the first 2 or so batches **with** added ginger was quite remarkable. A **growth surge** of more than 160% increase at 48 hours has been observed. Although the large percentage increase was variable for a while, increasing between 50% to 100% by weight at 48 hours was common, with added fresh ginger root. However, when using the exact same ingredients and the same measured amount of SKG, growth stabilized between 90% to 120% increase per each 2-day brewed batch.

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Effects of Sugar-Type on SKG White, refined sugar-cultured water kefir produces clear, opaque SKG without any colour, but with a subtle blue hue about the grains. While the less refined sugar types such as brown, raw, demerara, jaggery, rapadura, muscovado, sucanat and Chinese red sugar produce SKG with a light brown colour. This is likely due to precipitation of colloidal compounds of such sugar-types through fermentation becomes

entrapped among the micro-channels and crevices in the matrix [the grains become tainted with the colour of the sugar solution]. However, soaking light brown coloured SKG in water for a few hours, removes most of the colouring on the grains, which tells me that those colouring agents are indeed able to be extracted from SKG much the same way they were entrapped in the grains in the fist place, but in reverse. SKG grow better when cultured with non refined sugar-type, or with the addition of 1 tsp blackstrap molasses added to each 1/2-cup refined sugar preparations. On human nutrition alone, less refined sugar-types are ideal, and recommended over refined sugar. So this is good for the SKG and for the consumer of water kefir. Water-type seems important too, regarding grain growth as does sugar type. Please see **Regarding Growth-Rate of SKG** below.

Ginseng and Chinese Angelica Root Water Kefir Preparations, and the Psychoactive effect of

I discovered if an amount of either dry Korean Ginseng [*Panax quinquefolius*], or dry Chinese Angelica root or Dong Quai *[Angelica sinensis*] is added to strained water kefir [SKG have been removed] and brewed for 48 hours in a secondary fermentation, the beverage incurs noticeable psychoactive activity. The altered state of mind occurs very shortly after drinking an amount of the brew, and it lasts for only a short time [short half life]. Other varieties of herbs possibly due to pharmacological activity when brewed in a water kefir preparation, may also produce a similar effect. This could be due to the production of certain compounds, or, it an indication of pharmacological activity increase of specific compounds, or better bio-availability of those compounds due to fermentation.

Where **acetyl** groups are bound to certain other organic molecules through fermentation, they impart an increased ability to cross the blood-brain barrier, which could be the case here. I doubt very much that this is simply due to an increase in alcohol content through the added sugars of such herbs, for the feeling of euphoria is quite unique to that of an alcohol-induced euphoria. However, certain phyto-compounds may be responsible for the production of interesting molecules through fermentation. This certainly makes an interesting area for further research. If an interested scientist reading this does research this area, could you please be so kind to forward your findings on to me? I am always willing to supply the culture in return for a paper on such a study, as I have done in the past.

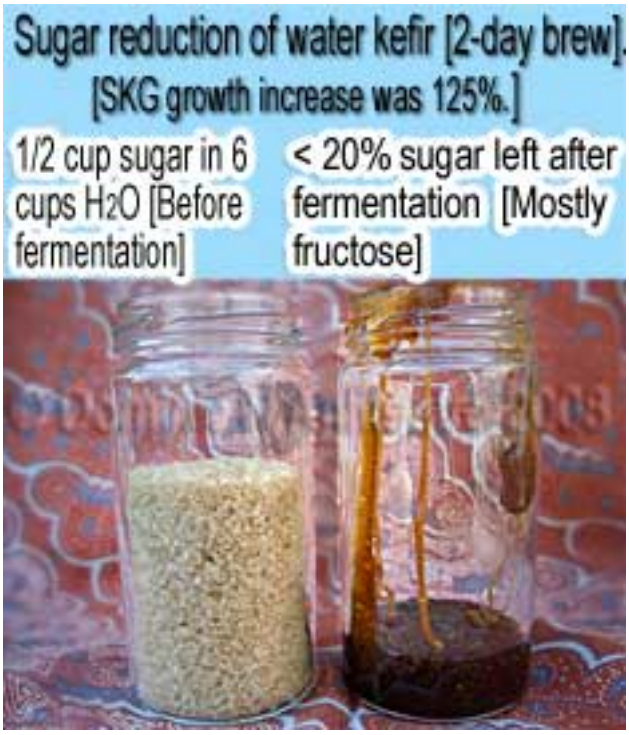
Regarding Growth-Rate of SKG SKG that I have cultured over the years, including many individuals who culture SKG, have observed a fluctuation regarding growth rate of SKG. I have observed growth increase to vary between 7% to 220% increase by weight at 48 hours. However, if the sugar solution with other added ingredients, and more importantly, with the addition of a very small amount of sodium bicarbonate and eggshell, if the solution ingredients are kept constant, including the amount SKG used and the fermentation time is kept to 2 days per each batch, then growth increase can be expected to remain reasonably constant between 90% to 120% per each batch of water kefir. On the other hand, milk kefir-grains increase at a reasonably constant rate when cultured in fresh milk. Many individuals including myself, have found a great potential for SKG to cease propagation, and remain non-propagable, when cultured in water with low mineral content. More so with activated charcoal filtered water. The outcome is mostly observed as a slow deterioration in growth over time, which at a point, becomes irreversible. At this point, SKG acquire a light brown film over the surface of each grain, and the grains lose the typical transparency of good growing [propagable] grains.

Although there are many factors to consider, the important one being the type of sugar and water used, duration of fermentation including sugar/water percentage. SKG do not appear to grow well, and in most cases growth ceases altogether over time, when cultured in a sugar solution prepared with purer forms of water, such as **distilled**, **demineralised** or **activated carbon filtered water** [Brita

filtered water e.g.] etc. Leaving SKG in the same sugar-solution for longer than 3 days over many batches and in warmer conditions, has an adverse effect regarding growth-factor of SKG. Lack of essential nutrients and energy source due to over fermentation, is a cause for problems, if starvation happens over an excessive number of proceeding batches.

Adding Fruit Juice SKG do not grow well if a concentration of most acidic fruit juice is included as part ingredient. With the addition of most acidic fruit juice, SKG reach a point where the grains never growing again. Whether this is due to the acids of such fruits, is unknown to me at this point. Fruits such as grape, apple, pineapple etc. have been problematic regarding SKG growth, so I suggest omitting such fruit juices in water kefir preparations. However, if one wishes to brew fruit juice, this is best achieved through **secondary fermentation**, whereby preparing a traditional water kefir, and then adding the preferred fruit juice to the strained water kefir [after separating the SKG]. Secondary fermentation can be carried out over a number of days at room temperature, or under cold storage, such as refrigeration. The latter will simply slow the process down, so it will take longer to brew. Cold storage fermentation also produces a fruit juice ferment with a different flavour and acidity. Also, secondary fermentation is best performed **under airlock**. This can produce quite an **alcoholic** beverage though, so be forewarned and do not drink such concoctions before driving a car or using heavy machinery.

Hard water [water with high mineral content], such spring water seems best. If such water-type is not available, the addition of 1/8 teaspoon of Sodium bicarbonate added per 2 litres [8 cups] of purified water, ensures good grain growth. Water adjusted to pH 7.2 to 7.5 with Sodium bicarbonate [slightly alkaline] gives good results in regards to good grain growth, I find. This may suggest that SKG have evolved in water with high mineral content, similar to water from the Hunza Valley, which is milky due to melting glacial water running through lime stone rich reserves.



SUGAR-REDUCTION of ready-to-drink water kefir How much sugar does water kefir contain? you may ask. Well, there's a good reason why I chose capital letters for sugar-reduction. The question is a concern for many individuals who wish to prepare water kefir. I receive lots of emails about this question, and the topic often comes up on my internet lists. I shall try to clarify here.

Most concern regarding sugar content of water kefir that I've experience, is from folks believing that because a reasonable amount of sugar is used for water kefir, then water kefir must contain a large amount of sugar. Folks on an anti-candida diet fit this category, for sugar is recommended as a no-no for **candidiais** [yeast infection]. Diabetic also share the same concern. I thought the best way to demonstrate sugar percentage of ready-to-drink water kefir [a beverage fermented for 2 days with SKG], is to show a photo of my evaluation [left].

The thick, not-so-sweet, but quite appealing flavoured thick syrup, was extracted from water kefir by reducing ready-to-drink [strained] water kefir by boiling under vacuum. The water kefir recipe involved 6 cups water, 1/2 cup raw sugar, 1 tsp blackstrap molasses, 1/8 tsp each of eggshell and oceanic coral powder, 1/8 tsp sodium bicarbonate, prepared with 1 cup SKG brewed for 2 days. The SKG increased from 1 cup to 2 1/2 cups at day 2, which is common growth-rate with the above recipe cultured with my exceptionally good growing SKG.

We can clearly note the initial amount of sugar and the resulting reduction of more than 80% of the original sugar content. The fact is that the less-than 20% sugar left in the water kefir after a 2 day ferment, is **mostly fructose**, a **mono-saccharide** [single sugar]. Fructose is extremely easy to digest, compared to the original sucrose. We also need to consider that the residual syrup in the photo contains some water, so in effect there is even less sugar content compared to what we see in the photo. To explain again, sucrose or regular table sugar, including any sugar-type derived from sugar cane, is made up of a molecule consisting of 2 single sugars-- **Glucose** and **Fructose**. This sugar is known as a **disaccharide** [**di** means 2, **saccharide** means sugar= two sugars]. The organisms of SKG break down the disaccharide sucrose into its 2 basic units, glucose and fructose. The grain itself is synthesized from just the glucose alone. Hence the reduction of sugar of water kefir with good growing SKG, for the grains are separated by straining the water kefir-- they are not consumed, taking the glucose that the grains are made of with them. Even if SKG were consumed, they are not easily broken down if at all through gastric digestion, for the glucose that the grains are made up of is a **dextran**, similar to a polymer or a natural plastic that gastric enzymes are unable to break down. To conclude, we can rest assured that if your SKG are growing well, by at least 50% per each batch, then sugar reduction is just as good, and the resulting water kefir contains a much smaller percentage than what you began with. Water kefir prepared with good growing grains is quite suitable for Diabetics and those on a low carb diet. [See also FAQ 46 at my Kefir FAQ web page]

Over fermentation, acidity of media, grain growth, an off flavour and slimy water kefir SKG are best cultured for no longer than 2 days in the same solution, with the occasional three-day fermentation being acceptable, especially in cooler conditions. During warmer conditions, it may be best to culture for no longer than 2 days. Three-day brews are best avoided over ongoing batches especially in warmer conditions, otherwise the organisms starve and the grains shall eventually **pickle**, for use of a better term. Pickling is evident by taste-testing a SKG-- pickled SKG acquire an acidic flavour with a distinctive effervescent tang left on the tongue, with no sign of growth of the culture. Whereas propagable SKG have a slightly sweet, neutral flavour with no sign of effervescence on the tongue when a grain is chewed. Non-propagable grains also lose the typical translucent quality, and early signs of this can be observed by breaking apart a grain and checking for translucence, or a clear, see-through quality, especially on the surface of the grain.

It seems important not to add lemon juice or other acidic fruit-juice as part ingredient, but to use 1/2 lemon left whole, or a slice of lemon. Citric acid does not appear to be used up by organisms of water kefir. As amounts of citric acid is leached into the water kefir from the fresh whole lemon, citric acid concentration increases in solution over time. If citric acid concentration reaches high enough levels, it may cause problems in regards to propagation of the culture. However, if the brew begins to acquire an **off flavour**, adding 1 Tbs lemon juice per 6 cups sugar-solution, and adding the juice over a few consecutive batches only, may be a recommended remedy for this type of problem. Although the option to store SKG in the fridge in just sugar/water for a few days is also a possible remedy for SKG that produce water kefir with an off-flavour, or a slimy consistency.

Slimy water kefir or slimy SKG In some cases, SKG may become **slimy**, losing the typical firm texture, producing a murky white, slimy water kefir. This may occur if too much oceanic coral, limestone or eggshell is included as part ingredient [see following paragraph]. Or, if herbs are included in the initial fermentation with SKG. This can also occur if any solid ingredient is contaminated. Herbs are best fermented in a **secondary fermentation**, that is after straining the water kefir, adding the herbs to the strained solution, and brewing for a given number of days. If the cause is due to adding too much coral, eggshell or limestone, then use less of these. As above, resting SKG in sugar/water stored in the fridge for 3 days, then reverting back to regular room temperature fermentation with regular ingredients, should remedy slimy SKG or slimy water kefir production. Resting SKG in the fridge for 3 days and reverting back to room temperature, may have to be done a few times, though. The cause for slimy SKG may have to do with an imbalance among the yeast and lactic acid bacterial components, where interference causes less condensation of glucose to synthesize a firm grain. Cold storage appears to return the essential balance among the different strains of organisms. Note that in the event SKG become slimy, the grains may increase by a phenomenal amount, if the recipe contains other optimal ingredients [apart from too much eggshell etc. or herbs].

Oceanic Coral, Limestone or Eggshell for a High Calcium Water Kefir, and Kefiraride I usually include a small piece of oceanic coral as seen in photo on left. But more recently, I use coarsely ground oceanic coral, limestone or egg shell or a mixture as part ingredient in my water kefir. Only 1/8 to 1/4 tsp per 6 to 7 cups sugar/water is needed, for too much of any of these ingredients may produce a slimy water kefir [see above]. These raw ingredients are mostly made up of calcium and magnesium carbonate. This gives a very slight pH adjustment as amounts of calcium carbonate is slowly dissolved in solution due the a reaction between the organic acids, such as lactic acid produced during fermentation, and the mineral calcium and magnesium of oceanic coral, limestone or egg shell. Not only do SKG grow more efficiently with the addition of these mineral-rich raw ingredients, the water kefir contains a **highly bio-available** form of the **minerals** found in those ingredients. This is beneficial to the consumer. These minerals are important for healthy strong teeth and bones, for the healing process, for good nervous and immune function, and the prevention of **Osteoporosis.** This makes mineral rich water kefir a suitable alternative for dairy to obtain those essential minerals in the diet. However, to effectively utilize calcium, a sufficient amount of vitamin D must be included in the diet, or through exposing the skin to the sun for 10 to 15 minutes each day.

The picture on the right demonstrates just how healthy and large my SKG grow in a ginger root beer prepared with the addition of oceanic coral, sodium bicarbonate, raw sugar, molasses and kefiraride [see following section]. I've had grains grow as large as 3cm across, before they break up into small grains as a normal phase of self-propagation of the culture. However, using such mineral-rich raw ingredients can produce water kefir with a cloudy slimy quality and a

musty flavour. To avoid this it is advisable to use the calcium rich ingredients as part ingredient only in small amounts. Another option is to include the calcium rich raw ingredient in the strained water kefir, so that secondary fermentation allows the minerals to be dissolved into solution during storage, to become more bio-available, even under cold stored in the fridge over a number of days. This will avoid the potential for producing slimy SKG.

Another point worth mentioning, if we take note, the picture on the left above shows a few SKG floating among the oceanic coral, fig and lemon. This is not usually the case, for most folk's SKG do not float in solution but remain at the bottom of the brewing vessel at all times due to the density of SKG. The reason why those particular SKG are floating, is solely due to the incredible growth increase of those particular SKG at the time of taking the photo. They grew that much and that fast, that the grains encapsulated small amounts of gas, which forms a tinny bubble of CO2 entrapped in small cracks at the centre of those particular grains. This, in turn floats those grains that grow extremely well. As the bubble escapes, those grains sink to the bottom ending up with the rest of the grains. The effect of **hovering of bees** in solution, is apparently why SKG are also referred to as **California Bees** as the grains slowly **pop up** and **down** in solution during active fermentation.

Water Kefir Preparations with Heat-Treated Kefiraride and Milk Kefir-Grain Emulsion

Recent experiments with kefiraride and water kefir have provided some interesting results. Kefiraride is the name that I have given to the kefiran-rich solution obtained by straining milk kefir-grains which have been soaked in fresh water for 24 hours to dissolve kefiran from the grains. With the addition of heat treated kefiraride as part ingredient for preparing water kefir, I have observed up to 220% increase by weight at 48 hours of SKG cultured in the mixed media. I found similar results by implementing milk kefir-grains blended with water, and then heat treating the emulsion, and adding the kefiran-rich solution as part ingredient in a water kefir preparation. The reason for heat treating these 2 solutions is to deactivate organisms native to milk kefir-grains, for I was mostly interested to observe the effects of kefiran on SKG growth, and to avoid the organisms of milk kefir interfering with this study. This may suggest that although kefiraride, and in fact, milk kefir-grains have the ability to hinder the growth of pathogenic organisms as demonstrated in other research, on the other hand, this provides a **growth stimulus** for **friendly** organisms of water kefir. Ginger also fits in a similar category, where it is known to halt the growth of unfavourable stains of organisms. Yet, SKG grow more efficiently with the addition of ginger root juice, at least initially, where large **growth surges** can occur. This may suggest that there is a selective process of what particular strains of organisms such compounds are affective against, or for, either for or against growth, and that self-organising micro-communities of friendly organisms [such as those found in the GI tract] may benefit from such compounds of ginger, kefiraride and milk kefir-grains. These provide such micro-communities either a growth stimuli [a prebiotic] or an energy source, or, both, while hindering pathogenic strains

Transferring Milk Kefir-Grains to a Sugar/Water Media

In early 1980, I discovered that traditional milk kefir-grains may be transferred to a sugar/water media, to produce a **variation** of Kefir d'acqua or water-kefir, with similar qualities as a brew prepared with traditional SKG. I've also discovered that alternative sugars may be used including maltose and honey e.g., which may either replace or be included with cane-sugar [sucrose]. Dry fruits or fresh fruits or the juice of fresh fruit may also be included. Fresh of dry herbs or herbal teas may be used as part

ingredient [see Kefir d'erba medica, a herbal kefir at my kefir making web page for details and recipes]. When transferring milk kefir-grains to a sugar/water-media for the first time, there is an initial **lag phase** [unbalanced growth] lasting about 4 days. During this phase, little activity is evident as the organisms stop reproducing while they fatten up by storing energy, until the organisms adjust metabolic pathways so as to be able to utilize the new source of energy [different forms of sugar and concentrations of, over lactose found in dairy milk]. However, after about the third or so batch onward, it should take 24 to 48 hours to culture a ready-to-drink form of water kefir beverage prepared with milk kefir-grains.

When traditional milk kefir-grains are transferred to a sugar/water-media, after 1 to 2 weeks of consecutive 24 to 48 hour preparations, the grains may not readily revert back to prepare a suitable milk-kefir right away on transferring the grains back to dairy milk. It is highly likely that the grains become non-propagable [they stop growing] after a few weeks or longer of being brewed in a sugar/water recipe. This is due to a missing bacterial component such as the all important encapsulated *Lb. kefiranofaciens.* This component is damaged after transferring milk kefir-grains to a sugar/water media, if cultured over extensive periods. This is because the organisms responsible for propagation of milk kefir-grains, lack the essential mono-saccharide **Galactose**, which the organisms synthesize by breaking down lactose [Lactose is a **disaccharide** meaning **2 sugars**, made up of Glucose and Galactose. Sucrose is also a **disaccharide**, but is constituted as Glucose and Fructose and does not contain Galactose]. Although, on transferring the grains back to milk, I've observed after about 2 months of culturing daily cycles of **raw** [personal preference], whole fresh milk, the grains eventually produced a **form** of **milk-kefir** with a reasonable good texture and flavour. However so, the culture milk-product lacked viscosity of traditional milk-kefir prepared with propagable milk kefir-grains. This may be due to the fact that the grains remained non-propagable throughout the culture-process, and in essence the bacterial component responsible for viscosity by the production of kefiran, was missing. These specific milk kefir-grains were previously cultured in a media consisting of water/malt/sucrose/dry fig over a 4 month period, prior to transferring the grains back to milk, to perform the experiment.

Transferring Sugary Kefir-Grains to Dairy Milk

On transferring SKG to both raw and pasteurised dairy milk, batches prepared over the first week had a pungent odour with an unappealing bitter flavour, due to excessive activity of yeast and aroma-forming organisms. Introductory batches took 3 to 4 days to culture. No distinctive curd or separation of curds and whey during 24 and 48 hour cultures was noted. Although the culture milk-product stabilized as consecutive batches were prepared over a 2 week period. In effect, a culture-milk beverage with reasonably good flavour and consistency was produced at 2 weeks onwards. During the ten month period of the experiment, deposits of milk-curd formed and adhering to the surface of most of the SKG in each batch. A good portion of curd could be removed from the surface of each grain by rinsing the grains with water. The translucent character typical of SKG remained under the surface-adhered curd, and the grains did not propagate, neither in the traditional sense nor as a white, soft, slimy texture; a typicality of traditional milk kefir-grains. Nor was there evidence of the gel-polysaccharide **kefiran** produced, which is an essential component of propagable milk kefir-grains, culture in dairy milk. This is most probably due to missing lactic acid bacteria [LAB] component[s] such as the encapsulated *Lb. kefiranofaciens,* or other kefiran or kefiran-like producing organisms, native to propagable, traditional milk kefir-grains of Caucasus.

Alcohol Content of Water Kefir Prepared with either Sugary Kefir Grains and Milk Kefir-Grains

There is a variation of alcohol content of water-kefir prepared with [5%] sugar-solution, when cultured with either milk kefir-grains or traditional SKG. 48 hour cultures, the SKG prepared water kefir contained about .7% alcohol by volume. On the other hand, a parallel culture prepared with recently transferred milk kefir-grains [stabilized], produced about 1.9% alcohol at 48 hours in 5% sugar solution.

My HYPOTHESIS Due to SKG increase in sugar solution, in this case 122% increase by weight at 48 hour culture-period, a portion of glucose split from sucrose [regular cane sugar] by organisms of SKG, was utilized to construct new grains [which consist solely of glucose]. In comparison, transferred milk kefir-grains did not increase over a 48 hour period. This is because a sugar/water media does not provide the essential elements for growth of milk kefir-grains. In effect, culturing water kefir with milk kefir-grains, or with non-propagable SKG provides a larger portion of glucose available for yeasts to convert into alcohol. Hence, water kefir prepared with propagable SKG, contains less alcohol than water kefir prepared with milk kefir-grains, or with non-propagable SKG [including beer, wine or champagne yeasts].

Self-confessed CONCLUSION The percentage of alcohol in water-kefir prepared with SKG has a direct relationship with the percentage of SKG increase-- greater grain increase gives less amount of alcohol in the final water kefir This may be preferable for preparing an optimally healthier water kefir beverage.

End Notes SKG do not appear to be as robust as milk kefir-grains of Caucasus, in regards to maintaining growth under adverse or stressful culture-conditions, especially in the case of over-fermentation. This may lend the belief of the possibility that water kefir-grains evolved from milk kefir-grains, or that milk kefir-grains is the older mother-culture of the 2 culture varieties, for here say. But there is no evidence to substantiate this as fact.

There has been claims that SKG cultured in dairy milk produced milk kefir-grains encapsulated at the centre of the SKG by culturing milk kefir-grains and SKG together in dairy milk over time. However, my experiments have not been able to reproduce this. My findings thus far has shown that with a mixed-culture [milk kefir-grains and SKG] cultured together in the same raw dairy milk daily, after 7 to 14 batches, some SKG entrapped a small amount of casein in a small, thin crack that appears along the centre of the matrix of the grain. However, when those SKG were cracked opened, they reveal an entrapped white substance, which first may appear to be a milk kefir-grain forming in the centre of the grain. Further investigation revealed that the substance was a small amount of milk curd, which disintegrates with little applied force-- it did not hold together or retain shape as does a milk kefir-grain.

Typical Microbiota Isolated from Various Water-Kefir Grains and Water-Kefir Beverage		
Lactobacilli	**Streptococci/lactococci**	**Yeasts**
Lactobacillus galactose *Lb. brevis* *Lb. casei* subsp. *casei* *Lb. paracasei subsp. paracasei* *Lb. casei subsp. Ramos* *Lb. casei subsp. tolerant* *Lb. coraciiform subsp. torquens* *Lb. fructose* *Lb. hilarities* *Lb. homophobia* *Lb. plantarum* *Lb. pseudo plantarum* *Lb. admonishes*	*Streptococcus cremeris* *Str. faecalis* *Str. lactis* *Leuconostoc mesenteroides* *Pediococcus damnosus*	*Saccharomyces cerevisiae* *Sacc. florentinus* *Sacc. pretoriensis* *Candida valida* *C. lambica* *Kloeckera apiculata* *Hansenula yalbensis*

KEFIR: THE ANCIENT ANTIDOTE FOR MODERN MALADIES

Source: *http://www.kefir.net/*

What's Kefir?

Kefir is a cultured, enzyme-rich food filled with friendly micro-organisms that help balance your "inner ecosystem." More nutritious and therapeutic than yogurt, it supplies complete protein, essential minerals, and valuable B vitamins.

- Kefir is simple and inexpensive to make at home.
- Kefir is used to restore the inner eco-system after antibiotic therapy.
- Kefir can be made into a delicious smoothie that kids love.
- Kefir is excellent nourishment for pregnant and nursing women, the elderly, and those with compromised immunity.

What if I'm lactose intolerant, and don't do dairy? Or don't digest milk products well? Is kefir right for me?

The beneficial yeast and friendly bacteria in the kefir culture consume most of the lactose (or milk sugar). Eat kefir on an empty stomach first thing in the morning before (or for) breakfast

and you'll be delighted to find it can be easily digested — as numerous people who have been lactose intolerant for years have discovered.

How to Introduce Kefir Into Your Diet

Some people thrive on kefir right from the start and others may need to proceed more slowly. Remember that people with candidiasis lack milk-digesting bacteria, so you may have to build up your "tolerance" of kefir. Start with about four ounces in the morning on an empty stomach. Every second day increase the amount until you are able to drink a full eight ounce glass.

If you are just beginning the therapeutic version of the Body Ecology Diet's health recovery program, it might be best to wait three to six months before introducing kefir. You may first need to clear your body of accumulated toxins and see your symptoms disappear. Moreover, people with candidiasis have what Chinese medicine calls the condition of dampness. Unfermented and improperly combined dairy products can lead to even more dampness and excess mucus. Here are some suggestions for introducing kefir while conquering dampness.

1. Eat Body Ecology Diet foods, which are drying.
2. Use proper food combining techniques to make kefir less mucus-forming (see the Body Ecology Diet 7th Edition).
3. Drink plenty of water and eat grains that have been soaked and then cooked. These add moisture and fiber to the colon.
4. Clean your colon. If a colon is free of blockages, kefir is tolerated more quickly. We have found that people who report having trouble with kefir, often have not followed the advice on colon cleansing. You probably also need to add acidophilus and bifidus bacteria to your small and large intestines. These wonderful bacteria also help to clean and improve the health of your entire digestive tract.
5. Be sure to get adequate exercise. Exercise stimulates the colon and improves elimination.

Tips for making perfect kefir from milk.

Time and temperature are two important factors that determine how thick and tasty your kefir will be. In the warmer months kefir may be ready to drink in 18 hours. If you let it sit out too long at room temperature, it will become thick and eventually start turning into cheese and whey. If your kefir is "lumpy" and too sour, you are definitely leaving it out too long. It should be creamy and "drinkable"…a little thicker than milk. At this point, shake it well and place the kefir into your refrigerator. It will thicken a little more since it is continuing to culture, but at a much slower pace. Making kefir is an art, not an exact science. With each batch you make, adjust the time until you get it just the way you like it. Each area of the country and each kitchen seem to be a little different. Donna finds that her kefir always cultures faster for her in California than in Atlanta.

Body Ecology's starter culture is just that…a starter. After you start your first batch of kefir (in milk or the liquid from the young coconut), you can use a small amount of that first batch to make your second batch. How much to use is included in the instructions found in each package of starter. If you transfer too much kefir from one batch to the next, you'll create a product that cultures too fast and tastes too sour. You can make about 7 such "transfers" from one batch to the next. After that, the yeast start to get crowded out by the more aggressive lactobacillus.

What is Kefir?:

Kefir is a cultured, creamy product with amazing health attributes.

Kefir's tart and refreshing flavor is similar to a drinking-style yogurt, but it contains beneficial yeast as well as friendly 'probiotic' bacteria found in yogurt. The naturally occurring bacteria and yeast in kefir combine symbiotically to give superior health benefits when consumed regularly. It is loaded with valuable vitamins and minerals and contains easily digestible complete proteins.

For the lactose intolerant, kefir's abundance of beneficial yeast and bacteria provide lactase, an enzyme which consumes most of the lactose left after the culturing process.

How is Kefir Made?

Kefir can be made from any type of milk, cow, goat or sheep, coconut, rice or soy. Although it is slightly mucous forming, the mucous has a "clean" quality to it that creates ideal conditions in the digestive tract for the colonization of friendly bacteria.

Kefir is made from gelatinous white or yellow particles called "grains." This makes kefir unique, as no other milk culture forms grains. These grains contain the bacteria/yeast mixture clumped together with casein (milk proteins) and complex sugars. They look like pieces of coral or small clumps of cauliflower and range from the size of a grain of wheat to that of a hazelnut. Some of the grains have been known to grow in large flat sheets that can be big enough to cover your hand!. The grains ferment the milk, incorporating their friendly organisms to create the cultured product. The grains are then removed with a strainer before consumption of the kefir and added to a new batch of milk.

Kefir vs. Yogurt:

Both kefir and yogurt are cultured milk products…

…but they contain different types of beneficial bacteria. Yogurt contains transient beneficial bacteria that keep the digestive system clean and provide food for the friendly bacteria that reside there. But kefir can actually colonize the intestinal tract, a feat that yogurt cannot match.

Kefir contains several major strains of friendly bacteria not commonly found in yogurt, Lactobacillus Caucasus, Leuconostoc, Acetobacter species, and Streptococcus species.

It also contains beneficial yeasts, such as Saccharomyces kefir and Torula kefir, which dominate, control and eliminate destructive pathogenic yeasts in the body. They do so by penetrating the mucosal lining where unhealthy yeast and bacteria reside, forming a virtual SWAT team that

housecleans and strengthens the intestines. Hence, the body becomes more efficient in resisting such pathogens as E. coli and intestinal parasites.

Kefir's active yeast and bacteria provide more nutritive value than yogurt by helping digest the foods that you eat and by keeping the colon environment clean and healthy. Because the curd size of kefir is smaller than yogurt, it is also easier to digest, which makes it a particularly excellent, nutritious food for babies, the elderly and people experiencing chronic fatigue and digestive disorders.

Body Ecology Kefir Starter contains the following beneficial bacteria:

- Lactococcus lactis subsp. lactis
- Lactococcus lactis subsp. cremoris
- Lactococcus lactis subsp. diacetylactis
- Leuconostoc mesenteroides subsp. cremoris
- Lactobacillus kefyr (thermophilic)
- Saccaromyces unisporus
- Dextrose as a carrier (consumed during fermentation)

Contains 6 packets which can be used an average of 7 times each. 1/4 cup of previous batch will ferment 1 quart of liquid. 1 cup will make one gallon, and so on. For prolonged shelf life, keep refrigerated before using.

Nutritional Content of Kefir:

More than just beneficial bacteria!

In addition to beneficial bacteria and yeast, kefir contains minerals and essential amino acids that help the body with healing and maintenance functions. The complete proteins in kefir are partially digested and therefore more easily utilized by the body. Tryptophan, one of the essential amino acids abundant in kefir, is well known for its relaxing effect on the nervous system. Because kefir also offers an abundance of calcium and magnesium, which are also important minerals for a healthy nervous system, kefir in the diet can have a particularly profound calming effect on the nerves.

Kefir's ample supply of phosphorus, the second most abundant mineral in our bodies, helps utilize carbohydrates, fats, and proteins for cell growth, maintenance and energy.

Kefir is rich in Vitamin B12, B1, and Vitamin K. It is an excellent source of biotin, a B Vitamin which aids the body's assimilation of other B Vitamins, such as folic acid, pantothenic acid, and B12. The numerous benefits of maintaining adequate B vitamin intake range from regulation of the kidneys, liver and nervous system to helping relieve skin disorders, boost energy and promote longevity.

Kefir Benefits:

The benefits of consuming kefir regularly in the diet

Easily digested, it cleanses the intestines, provides beneficial bacteria and yeast, vitamins and minerals, and complete proteins. Because kefir is such a balanced and nourishing food, it contributes to a

healthy immune system and has been used to help patients suffering from AIDS, chronic fatigue syndrome, herpes, and cancer. Its tranquilizing effect on the nervous system has benefited many who suffer from sleep disorders, depression, and ADHD (attention deficit hyperactivity disorder).

The regular use of kefir can help relieve all intestinal disorders, promote bowel movement, reduce flatulence and create a healthier digestive system. In addition, its cleansing effect on the whole body helps to establish a balanced inner ecosystem for optimum health and longevity.

Kefir can also help eliminate unhealthy food cravings by making the body more nourished and balanced. Its excellent nutritional content offers healing and health-maintenance benefits to people in every type of condition.

Kefir Recipes:

Spectacular Kefir Drink

Make kefir with the freshest milk possible and add as many of the following ingredients as desired:

- 1 tsp. of unrefined flax seed oil
- Lecithin, which aids fat digestion, to taste
- Fiber, such as Nutri-Flax
- Probiotics (friendly bacteria)
- Natural flavorings or herbs such as stevia, nutmeg, cinnamon, non-alcoholic vanilla or natural fruit flavoring
- Fresh or frozen organic fruits, strawberries, raspberries, bananas, kiwi, mango etc.

Blend together for a delicious, nutritious breakfast, lunch, or snack and enjoy!

Cool Kefir Dressing (No Oil)

- 2 cups fresh Kefir
- 1 heaping tbs. fresh parsley, chopped
- 1 heaping tbs. fresh chives, minced
- 1 heaping tbs. fresh lemon zest, finely chopped
- 1 heaping tbs. fresh garlic, finely chopped
- 1 tsp. sea salt
- 1/4 tsp. Herbamare™
- 1/2 tsp. xanthan gum

1. Combine all ingredients (except xanthan gum) and blend thoroughly.
2. Slowly add xanthan gum and continue to blend until mixture thickens.
3. Full flavor will develop after 6 to 8 hours.

Note: Dairy products combine best with nonstarchy vegetables and acid fruits. Don't hesitate to add a little Flax Seed Oil to this recipe.

Sources:

Homemade and Ready-Made Kefir

The easiest way to have fresh kefir available any time is to make it yourself! Among the benefits of homemade kefir: you can choose the milk you use — organic, nonfat, low fat, whole, goat's or cow's milk; it's very rich in microorganisms, and, of course, it can't get any fresher. Our kefir starter culture contains six packets that can each be used seven times. For more information on the starter culture, call Body Ecology at: 1-800-511-2660, or click here to go to the Body Ecology online store.

You can also check out the full line of Body Ecology products on-line at the Body Ecology Store.

KEFIR: THE NOT-QUITE-PALEO SUPERFOOD

Source: ***http://chriskresser.com/kefir-the-not-quite-paleo-superfood***

One of the key components of a strict Paleo diet is the complete elimination of dairy products. Unfortunately, this may lead to many dairy-tolerant individuals missing out on some of the most nutritious and beneficial foods on the planet. One dairy product that not only offers a wide range of vitamins and minerals, but also provides a variety of probiotic organisms and powerful healing qualities, is kefir (pronounced /kə fə r/ kə -FEER).

The word "kefir" is derived from the Turkish word "keif", which literally translates to the "good feeling" one has after drinking it. (1) Traditional cultures have attributed healing powers to kefir for centuries, but it has only recently become the subject of scientific research to determine its true therapeutic value.

What is Kefir?

Kefir is a fermented milk product that originated centuries ago in the Caucasus mountains, and is now enjoyed by many different cultures worldwide, particularly in Europe and Asia. It can be made from the milk of any ruminant animal, such as a cow, goat, or sheep. It is slightly sour and carbonated due to the fermentation activity of the symbiotic colony of bacteria and yeast that make up the "grains" used to culture the milk (not actual grains, but a grain-like matrix of proteins, lipids, and sugars that feed the microbes). **The various types of beneficial microbiota contained in kefir make it one of the most potent probiotic foods available.**

Besides containing highly beneficial bacteria and yeasts, kefir is a rich source of many different vitamins, minerals and essential amino acids that promote healing and repair, as well as general health

maintenance. (2) Kefir contains high levels of thiamin, B12, calcium, folates and Vitamin K2. It is a good source of biotin, a B vitamin that HELPS the body assimilate other B vitamins. The complete proteins in kefir are already partially digested, and are therefore more easily utilized by the body. Like many other dairy products, kefir is a great source of minerals like calcium and magnesium, as well as phosphorus, which helps the body utilize carbohydrates, fats and proteins for cell growth, maintenance and energy. (3)

Kefir has positive effects on gut and bone health

It is a potent probiotic, consisting of both bacterial and yeast species of beneficial flora, and may help protect against gastrointestinal diseases. It has also been demonstrated to improve lactose digestion in adults with lactose intolerance. (4) In addition to providing the gut with healthy symbiotic microflora, many studies have also demonstrated the anti-fungal and antibacterial properties of kefir. (5) Certain bacteria strains from the kefir culture have been shown to help in treating colitis by regulating the inflammatory response of the intestinal cells. (6)

As we know, vitamin K2 is one of the most important nutrients that is greatly lacking in the American diet. (7) Vitamin K2 is a product of bacterial fermentation, so kefir is a likely a good source of this nutrient, especially if made with milk from pastured animals. (8) Vitamin K2 plays a key role in calcium metabolism, where it is used to deposit calcium in appropriate locations, such as in the bones and teeth, and prevent it from depositing in locations where it does not belong, such as the soft tissues and the arteries. (9) Since kefir is high in calcium and phosphorus and also contains vitamin K2, drinking kefir is likely beneficial to bone health, providing the essential minerals needed for bone growth as well as the vitamin K2 needed to effectively deposit those minerals in the bone

Kefir modulates the immune system

Certain compounds in kefir may play a role in regulating immune function, allergic response, and inflammation. One study found that kefiran, a sugar byproduct of the kefir culture, may reduce allergic inflammation by suppressing mast cell degranulation and cytokine production. (10) Another study found that certain bacteria in the kefir culture inhibited IgE production, helping to moderate the body's allergic response. (11)

Research has also demonstrated that kefir may have an anti-tumor effect. In one study, kefir consumption inhibited tumor growth and induced the apoptotic form of tumor cell lysis, suggesting that kefir may play a role in cancer prevention. (12) When applied topically, kefir and its polysaccharide compounds have even been shown to be effective antimicrobial and anti-inflammatory agents for improved wound healing. (13) (14)

As kefir clearly has a wide variety of health benefits, you may be interested in including this fermented dairy beverage in your diet. Cow, goat, or sheep dairy are all good choices, and all types of kefir are generally very low in lactose. Raw milk kefir would be the ideal choice for anyone looking for maximum nutritional quality, but may be challenging for most consumers to find.

Kefir is becoming more mainstream for health-conscious Americans, so you may be able to find full-fat, plain kefir at your local grocery store. Look for a brand with minimal additives and extra

ingredients. Good commercial products include Redwood Hill Farm's Traditional Goat Kefir and Lifeway's Organic Whole Milk Plain Kefir.

Making your own kefir at home

Finding high quality kefir at your local store may not be an option for you. In this case, you can make your own kefir at home. Making kefir is surprisingly simple, and Cheeseslave has a great instructive blog post on how to make kefir at home. You can buy kefir grains online at sites such as Culture for Health, and provided you take care of the culture, it should last indefinitely. Making kefir from raw dairy products is ideal, but if you don't have access to raw dairy, you can use organic full-fat dairy, preferably from a grass-fed animal. For those who cannot tolerate any form of dairy, kefir can be made from coconut milk, coconut water, and even just sweetened water, which will provide many of the benefits found in dairy kefir.

Kefir is a great source of vitamins, minerals, probiotics, and a variety of other unique compounds that can greatly contribute to your overall health and wellbeing. I highly recommend including this nutritious superfood in your diet, even if it doesn't fall under strict "Paleo" guidelines!

THE 411 ON LACTOSE INTOLERANCE AND KEFIR

Source: *http://nationalkefirassociation.com/Library.aspx*

What is lactose intolerance?

A double scoop of ice cream on a hot summer day. A familiar bowl of cereal and milk in the morning. Creamy mac n cheese served steaming at the dinner table. Throughout any given day, dairy works its way into our diets in a number of delicious and comforting ways. But for people with lactose intolerance, the inability to digest lactose (the primary sugar found in milk), renders these foods – and the pleasure associated with them – off-limits.

Between 30 and 50 million Americans suffer from lactose intolerance (African Americans, American Indians, and Asian Americans are more likely to be affected). These individuals don" t produce enough of an enzyme called lactase, normally made by cells that line the small intestine, which breaks down lactose into a more easily absorbable unit. The result: Discomfort ranging from mild-to-intense nausea, cramps, bloating, gas, and diarrhea.

What are the symptoms?

As mentioned above, the main symptoms of lactose intolerance include nausea, cramps, bloating, gas, and diarrhea. Onset of symptoms can occur anywhere from a half-hour to two hours following a lactose-containing food or meal. But besides the digestive discomfort, lactose intolerance can wreak havoc on one" s nutritional status. Dairy products like skim milk provide essential nutrients, including as calcium, vitamins A and D, riboflavin, and phosphorus.

What can you do?

Fortunately, many people with lactose intolerance can still enjoy some milk-containing foods in small doses, gradually increasing their tolerance. You can also experiment with various dairy products – for instance, Swiss or cheddar cheeses contain less lactose than softer cheeses. Lactose intolerant individuals may also be able to consume cultured milk products, like yogurt, as the bacteria used in the culturing process naturally create the enzyme that breaks down lactose.
An array of lactose-reduced or lactose-free products, from milk to soy cheese pizza, can be found at many mainstream grocery stores. And of course, calcium can be found in non-dairy products, including broccoli, leafy greens, almonds, and calcium-fortified juices.
The Mayo Clinic also suggests using probiotics to build your tolerance to lactose. That" s where kefir comes in….

How can kefir help?

Kefir is the most favorable milk product for people suffering from lactose intolerance. A recent study in the *Journal of the American Dietetic Association* examined people struggling with lactose intolerance and found that kefir can actually *improve* lactose digestion. The reasoning? Kefir" s live, active bacteria cultures help break down the sugars in milk.

The researchers asked 15 adults to try five test foods: 2% milk; plain kefir; raspberry-flavored kefir; plain yogurt; and raspberry-flavored yogurt, each following a 12-hour fast. Study participants reported having little or no symptoms associated with lactose intolerance after eating both types of yogurt and kefir, according to sciencedaily.com In fact, drinking kefir reduced flatulence frequency by more than half when compared with milk.

"Both kefir and yogurt improve lactose digestion simply because some of the bacterial cells give up their lives in the intestinal tract, release their enzymes and digest the lactose," said study co-author Steven Hertzler. "It's a one-shot deal. However, kefir has additional microorganisms that may be able to colonize the intestines and benefit health further by protecting the intestine against disease-causing bacteria." One cup of kefir supplies 30% of one's daily calcium needs, with very little lactose. You get all the benefit of drinking kefir – low-fat, high protein, high in bone-strengthening calcium – without the stomach upset that can come with other dairy products.

Nobody knows that better than Shari Hixson, 41, from Chattanooga, TN. In 2008, her mother tipped her off to kefir – both women suffer from irregularity and Shari is lactose intolerant. “She told me, „Just try it – I guarantee it" s not going to hurt you and it WILL get your system moving.” She gave it a try, drinking 8 oz a day, and within the first week, “My stomach instantly felt soothed. I had no cramping, the bloating was gone. Everything was moving better.” Now Shari can enjoy creamy dairy products without the repercussions that accompany milk for those with lactose intolerance. And, she says, “I" m recommending it to everyone I know!”

CHART:

Calcium and Lactose in Common Foods Nondairy Products	Calcium Content	Lactose Content
Soymilk, fortified, 1 cup	200–300 mg	0
Sardines, with edible bones, 3 oz.	270 mg	0
Salmon, canned, with edible bones, 3 oz.	205 mg	0
Broccoli, raw, 1 cup	90 mg	0
Orange, 1 medium	50 mg	0
Pinto beans, 1/2 cup	40 mg	0
Tuna, canned, 3 oz.	10 mg	0
Lettuce greens, 1/2 cup	10 mg	0

THE 411 ON IBS AND KEFIR

Source: ***http://nationalkefirassociation.com/Library.aspx***

What is IBS?

You've no doubt heard of Irritable Bowel Syndrome - as many as one in five American adults suffers from the condition, including Tyra Banks and actress Cybill Shepherd. But what exactly *is* IBS? Surprisingly, IBS is not a disease, per se, but a grouping of symptoms including abdominal pain or discomfort, cramping, bloating, gas, diarrhea, and/or constipation. It affects the colon or large bowel, the part of the digestive tract that stores stool. Despite its prevalence, many sufferers remain silent because the symptoms can be embarrassing.

What are the symptoms?

The primary symptoms of IBS are:

- Abdominal pain or discomfort
- Chronic diarrhea, constipation, or a combination of both
- A swollen or bloated abdomen
- The feeling that you have not finished a bowel movement
- Mucus in the stool
- Women with IBS often see their symptoms worsen during their menstrual periods.

What are the conventional treatments?

There is no cure for IBS, but a number of lifestyle, mind-body therapies and dietary changes, in addition to certain medications, may alleviate symptoms. Stress relief is a major issue, as IBS is thought to have a psychological component.

How can kefir help?

As mentioned above, dietary changes are often suggested as a first-line defense against IBS. After all, why take medication if adding or subtracting certain foods could help?

Many studies show that adding certain types of yogurt – specifically, those containing the bacteria lactobacilli and bifidobacteria - to your diet may alleviate the symptoms of IBS. These "good" bacteria, also known as probiotics, are normally found in the large intestine, but adding them to your diet can help with gas, pain and bloating, while reducing the time it takes for food to move through the intestine, says Mayo Clinic gastroenterologist Michael Picco, MD (http://www.mayoclinic.com/health/ibs-diet/AN01346). This, in turn, may be helpful in people with constipation; probiotics may also decrease the frequency of loose stools, improving IBS-related diarrhea. (Lifeway kefir contains the following 10 strains of probiotics: Lactobacillus Lacti, Lactobacillus rhamnosus, Bifidobacterium Longum, Bifidobacterium Breve, Lactobacillus Acidophilus, Saccharomyces florentinus, Streptococcus Diacetylactis, Leuconostoc Cremoris, Lactobacillus Plantarum, Lactobacillus Case.

In one recent UK study, IBS sufferers who received a probiotic preparation made up of multiple strains of Lactobacillus Acidophilus, Bifidobacterium Lactis and Bifidobacterium Bifidum reported significantly greater improvement in the severity of their symptoms, fewer days of pain and improved quality of life compared with those who received a placebo.

And in a 2008 Chinese study, patients with diarrhea-predominant IBS received either fermented milk containing Streptococcus thermophilus, Lactobacillus bulgaricus. Lactobacillus acidophilus and Bifidobacterium Longum or a probiotic-free milk beverage. Those in the former group experienced great symptom relief.

Fiber-rich foods such as whole grain breads and cereals, beans, fruits and vegetables may also help, by reducing IBS-associated constipation. For the uninitiated, experts suggest adding these foods to your diet a little bit at a time, though, to help your body get used to them and avoid the gas and bloating which additional fiber can cause. Lifeway kefir contains 3g fiber per one cup serving – 12% of your daily needs!

If you think you may suffer from IBS, it's important to talk with your doctor and plan a treatment strategy. There is no need to struggle in silence – there are therapies that can bring you relief. And don't forget to bring up Lifeway kefir with your physician or nutritionist…it could become an integral component of your feel-better strategy.

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THE 411 ON THE IMMUNE SYSTEM AND KEFIR

Source: *http://nationalkefirassociation.com/Library.aspx*

What is the immune system?

Everyday, you shake hands with strangers, open and close doors, steer grocery carts, ride in airplanes, pick up your little one from school. And every time you engage in these seemingly benign activities, you expose yourself to an array of viruses. Luckily, healthy individuals are armed with a complex, highly developed group of organs and cells that defend the body against these infections and other diseases. It's called your immune system and its mission is single-minded: To seek and kill invaders. Columbia University's Go Ask Alice! describes it as —an army of millions of microscopic soldiers patrolling your body, working to prevent illness by fighting any invading germs. These so-called —soldiers ‖ are actually white blood cells, and you need to feed them well so they can protect you, keeping your healthy and strong.

What can weaken it?

A number of factors can influence and compromise our immune system – anything from chronic stress to an autoimmune disorder (Multiple Sclerosis, diabetes, and Crohn's disease are a few examples – in such diseases, the immune system becomes unable to distinguish between foreign invaders and the body's own cells). Ironically, antibiotics can compromise the immune system, too. For example, these drugs target "bad" bacteria but may also kill the "good" bacteria in the large intestine or vagina, leading to diarrhea or yeast infections, respectively.

What can strengthen it?

A healthy, well-balanced diet can do wonders for strengthening the immune system. The following foods and nutrients are critical:

- Vitamin C (found in citrus fruit, broccoli)
- Vitamin E (found in nuts, vegetable oils, and whole grains)
- Garlic (also a natural antibiotic)
- Zinc (found in beef, turkey, beans, oysters, crab)
- Bioflavenoids (found in fruits and vegetables)
- Selenium (found in chicken, whole grains, tuna, red snapper, lobster, shrimp, garlic, egg yolks,

sunflower seeds, brown rice)
- Carotenoids (found in carrots, yams)
- Omega-3 fatty acids (found in nuts, salmon, tuna, mackerel, flaxseed oil)

In addition, certain lifestyle changes can boost your immune system, including:

- Washing your hands to reduce the number of organisms that enter your body.
- Getting at least eight hours of sleep every day — deep sleep stimulates and energizes the immune system.
- Maintaining a healthy weight — obesity can weaken the immune system.
- Exercising at least 30 minutes most days of the week.
- Eating less sugar — 100 grams of sugar, the amount in one 12-ounce can of regular soda, can reduce the ability of white blood cells to kill germs by 40 percent for up to 5 hours!
- Not smoking — smoking leads to lung and other cancers, and also weakens the immune system.
- Reducing and managing stress, such as effective time management — long periods of feeling stressed weakens the immune response.

How can kefir help?

For individuals being treated with medications such as antibiotics, kefir can help by replenishing protective intestinal flora which can be destroyed during treatment. As previously mentioned, antibiotics go after "bad" bacteria in the body but may also kill the "good" bacteria in the large intestine in the process. The result: stomach discomfort and diarrhea. According to a November 2008 study published in *American Family Physician*, up to one in five individuals on antibiotics stop taking their medicine before completing the full course of therapy due to diarrhea. But, researchers from Albert Einstein College of Medicine of Yeshiva University said, physicians could help patients avoid this problem by prescribing probiotics. "With the level of evidence that probiotics work and the large safety margins for them, we see no good reason not to prescribe probiotics when prescribing antibiotics," Dr. Benjamin Kligler, a co-author of the study and associate professor of clinical family and social medicine at Einstein, said, as reported on ScienceDaily.com. "The only drawback is that probiotics are not covered by health insurance." A single-month supply of supplemental probiotics can cost between $8 and $22. (A 32-oz. bottle of kefir costs about $3.00.)

Some other ways probiotics can help bolster your immune system:

· In a study conducted by scientists at the Institute of Food Research and published in *Clinical & Experimental Allergy* last year, volunteers with a history of seasonal hay fever (an allergic reaction to pollen or fungal spores) drank a daily milk drink with or without *Lactobacillus casei* over the course of five months. What they found: **Those individuals who drank the beverage *with Lactobacillus casei* experienced significant reductions in the production of molecules associated with allergy.**

· A recent study published in the *British Journal of Sports Medicine* revealed that professional long distance runners who consumed the probiotic *Lactobacillus* (in the form of a dietary supplement) had shorter and less severe bouts of respiratory illness than those who took a placebo.

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