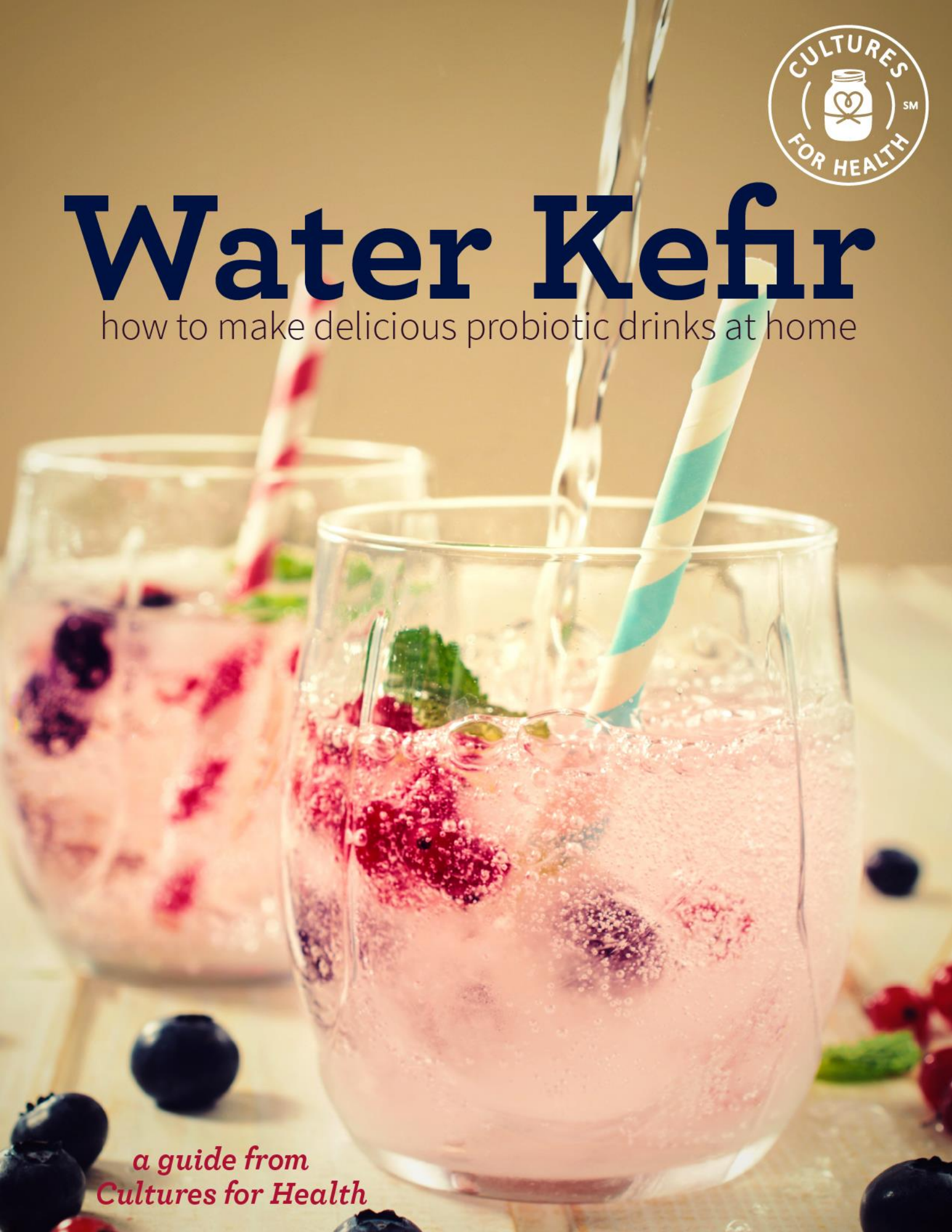

Water Kefir

how to make delicious probiotic drinks at home

a guide from
Cultures for Health

a guide by Cultures for Health

WATER KEFIR

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INTRODUCTION

The Origin of Water Kefir

You may be familiar with the origins of milk kefir, but what about water kefir? Where did that originate and how does it differ from milk kefir? Although both products are made from "grains" these are not actual grains, but rather clusters of bacteria and yeast living in a symbiotic relationship and held together by a polysaccharide (dextran) produced by *Lactobacillus brevis.* These clusters of bacteria, yeast, and polysaccharide look like little crystals, or "grains" of jelly. The bacteria and yeasts in the grains utilize sugar to produce lactic acid, ethanol (a small amount), and carbon dioxide.

Water kefir grains are known by a variety of names, but most commonly are called tibicos, Japanese water crystals, and California bees. You might also see them referred to as Australian Bees, African Bees, Ginger Bees, Ginger Beer Plant, Sea Rice, or Aqua Gems, to name a few. Different countries call them by different names. In Germany they may be called Piltz; in Italy, Kefir di Frutta; and in France, Graines Vivantes. In Mexico, tibicos (or tibi) is used to make a fermented beverage called Tepache, made from pineapple, brown sugar, and cinnamon.

Because of the highly active nature of the bacteria and yeasts, there are many variations of the exact culture that produces the fizzy water kefir drink.

It is not completely clear where or when water kefir grains originated, but speculation points toward Mexico as the most likely place of origin. According to some research, the tibicos culture forms on the pads of the Opuntia cactus from Mexico as hard granules that can be reconstituted in a sugar-water

solution as propagating tibicos. There is documentation from the late 1800s of water kefir grains being used in fermented drink made from the sweetened juice of the prickly pear cactus in Mexico.

There are, however, stories that place their origin, or at least their use, in Tibet, the Caucasus Mountains, and the southern peninsula of the Ukraine. Pinpointing a place of origin is made even more difficult because water kefir cultures can be found throughout the world and no two cultures are exactly the same. Lack of recorded history also makes it difficult to place an origin date, but it seems likely these grains have been used for many centuries.

Regardless of what name is given to water kefir grains, or the exact makeup of the culture, the technique for using them is basically the same throughout the world. The grains are added to a sugary liquid and the mixture is allowed to ferment at room temperature for 24 to 48 hours. The sugary liquid can be sugar water, fruit juice, or coconut water. Fresh or unsulphured dried fruit can be added to flavor the water kefir, generally after the initial 24- to 48-hour fermentation time and after the grains have been removed from the liquid. By bottling the fermented water kefir in a bottle with a tight lid, carbon dioxide will be contained, producing a nice effervescence or soda pop-like quality. Be sure to store this drink in the refrigerator to slow or halt the fermentation process and reduce the possibility of bottles exploding from too much pressure.

With a little care and precaution, water kefir grains can be maintained indefinitely. Often, the grains will multiply in number, but not always. Chlorine in tap water can damage the grains, as can preservatives added to dried fruit or sprayed on conventional produce. Kefir grains need minerals and unrefined whole cane sugar supplies a good amount of minerals. Refined sugar may be used, but distilled water is not advised unless you add liquid mineral drops.

If you cannot tolerate dairy, or if you are just looking for an alternative to commercial sodas, water kefir beverages can be a fun, easy, and tasty way to quench your thirst while adding more probiotics to your diet.

Composition of Water Kefir Grains: Bacteria & Yeasts

Water kefir grains consist of a complex polysaccharide matrix, in which live a combination of live bacteria and yeasts existing in a symbiotic matrix. Kefir grain make-up can vary depending on culturing location and conditions, resulting in a highly variable community of lactic acid bacteria and yeasts.

Following is one scientific study's list of bacteria and yeast strains found to comprise water kefir grains. *The strains listed may include numerous subspecies and variants.

Please note: this list is for general informational purposes only. We do not test individual batches of water kefir grains for yeast and bacteria content; therefore we cannot make any guarantees as to the exact probiotic makeup of our water kefir grains.

Bacteria	Yeasts
Species Lactobacillus	Hanseniaospora valbyensis
L. brevis	Lachancea fermentati
L. casei	Saccharomyces cerevisiae
L. hilgardii	Zygotorulaspora florentina
L. hordei	
L. nagelii	
Species Leuconostoc	
L. citreum	
L. mesenteroides	
Species Acetobacter	
A. fabarum	
A. orientalis	
Species Streptococcus	
S. lactis	

Source: http://biologiageral.com.sapo.pt/Ficheiros/Gulitz.pdf (referenced May 2013)

A Comparison: Milk Kefir and Water Kefir

There are two different types of kefir. Milk kefir is fairly well-known as many grocery stores now carry it in the dairy department. Water kefir is similar to milk kefir in that it is a probiotic-rich beverage. But water kefir is dairy-free, making it a great choice for people with dairy sensitivities. Water kefir is also a lighter beverage and can be flavored any number of ways, making it easier to drink in large quantities and a great choice for hydration in warm weather.

Here are the primary differences between milk kefir and water kefir:

How It is Made

Milk Kefir. Milk kefir is made with cow milk, goat milk, or coconut milk.

Water Kefir. Water kefir is dairy-free and is made with sugar water, juice, or coconut water.

What It Contains

Milk Kefir. Milk kefir is a probiotic-rich beverage with live active yeast and bacteria. Our Milk Kefir Grains (traditional starter culture) are propagated in organic milk.

Water Kefir. Water kefir is dairy-free and is made with sugar water, juice, or coconut water. Our Water Kefir Grains are grown in organic sugar and filtered water.

How It is Used

Milk Kefir. Milk kefir can be consumed plain, flavored, or as the base for salad dressings, smoothies, and more. You can generally substitute kefir for buttermilk or yogurt in recipes. Milk kefir can also be strained of some of the whey to make a type of cheese ranging from a soft consistency to a cream cheese texture, or even a hard cheese texture.

Water Kefir. Water kefir can flavored and consumed as a replacement to soda pop and juice. It also makes a great base for dairy-free smoothies.

How It Tastes

Milk Kefir. Milk kefir tastes like a strongly flavored cultured milk. The taste of any particular batch is based on the level of fermentation, which is dependent on a number of factors including the ratio of kefir grains to milk, the ambient temperature, and the length of time the kefir is allowed to culture. Well-fermented kefir generally has a strong sour or tart taste and can even have a bit of a carbonated texture. (It is known in some circles as the "champagne of milk.")

Water Kefir. Water kefir tends to have a sweet, slightly fermented taste to it. We generally recommend flavoring water kefir as it isn't very impressive-tasting plain. Flavoring is easy: fresh or dried fruit, juice, or flavor extracts such as vanilla extract can all be used.

How It is Flavored

Milk Kefir. Milk Kefir can be flavored by blending in fresh or frozen fruit, flavor extracts such as vanilla, sweeteners such as honey, maple syrup, stevia and more. There are a number of flavoring options.

Water Kefir. Water Kefir can be flavored using fresh or dried fruit, flavor extracts such as vanilla extract, fruit juice, or even herbs.

Other Uses

Milk Kefir. Milk kefir can be used in place of yogurt in recipes or in cream-based salad dressings. It can also be drained of some of its whey to make a soft cheese. Milk kefir grains or starter cultures can be used to inoculate cream to make butter or a sour cream-type condiment. Coconut milk kefir can be made by allowing the kefir grains to culture in coconut milk.

Water Kefir. Water kefir can be bottled up and used in place of soda pop. It also can be used as a base for dairy-free smoothies. A quarter-cup of water kefir can be added to 2 to 3 cups of non-dairy milk to culture it into a non-dairy kefir.

Water Kefir vs. Kombucha

Many people are familiar with kombucha and when they hear of water kefir are likely to compare it to kombucha. Exactly what is the difference between kombucha and water kefir? Are their benefits of one over the other? Should you be drinking both?

Definitions

Kombucha is a fermented tea made with a kombucha starter culture (a.k.a. mushroom, mother, scoby, etc.), tea prepared with sugar, and some kombucha tea from a previous batch (a.k.a. starter tea). The mixture is allowed to ferment at room temperature for 5 to 30 days. It can be consumed plain or with added flavoring such as fruit or juice. Kombucha contains a number of vitamins (particularly B vitamins) and may have a number of health benefits.

Water kefir is a probiotic beverage made with water kefir grains. Water kefir grains can be used with sugar water, juice, or coconut water. Water kefir grains harbor a set of bacteria and yeast existing in a symbiotic relationship. The term "kefir grains" describes the look of the culture only. Kefir grains contain no actual "grains" such as wheat, rye, etc. Our kefir grains are grown in filtered water and organic sugar. (There is also a type of kefir made with milk kefir grains cow milk, goat milk, or coconut milk. Milk kefir is more well-known than water kefir.)

Conclusions: Both kombucha and water kefir are made from a starter culture, though the starter cultures look very different. Both kombucha and water kefir contain bacteria and yeasts existing in symbiosis. Both are made from a sweetened liquid: water kefir with sugar water or juice; kombucha with sugared tea.

Preparation

To make kombucha- tea is prepared and sugar is dissolved in the tea. The tea is allowed to cool to room temperature before adding the starter tea (kombucha tea from a previous batch) and the kombucha culture. The container is covered with a breathable cloth (we recommend securing it with a tight rubber band to keep the bugs out) and left to ferment at room temperature for 5 to 30 days. Once the fermentation process is complete, the kombucha culture is removed, along with the new culture that has formed during the fermentation process. Click here for detailed instructions and a video on making kombucha.

At this time you can drink the kombucha as is or you can add juice or fruit for additional flavoring. You can also bottle the kombucha with juice or fruit in airtight bottles (click here to view our flip top bottles which are perfect for bottling kombucha) and allow them to sit for several days so the carbonation can build.

To make water kefir- water kefir grains are added to sugar water, juice, or coconut water and allowed to culture for 24 to 48 hours, then the kefir grains are removed. To flavor water kefir (we don't recommend drinking water kefir made with sugar water without flavoring!) simply add fruit juice or flavor extracts (e.g., vanilla extract) to the water kefir. If a more fizzy water kefir is desired, once the juice is added you can bottle it up tightly and allow it to sit for a few days so the carbonation can build. Click here for detailed instructions and a video on making water kefir.

Conclusions: The process of making kombucha almost always takes longer than making water kefir. However, you can make a very large batch of kombucha with just one kombucha scoby whereas you are limited in the amount of water kefir you can make by the amount of grains that you have.

Flavor

The taste of kombucha could be described as a tangy, slightly sweet effervescent beverage. The flavor varies greatly depending on the amount of time it has been allowed to ferment and whether or not flavoring was added. For example, fermentation time determines whether the kombucha tea has a very mild taste or a very strong vinegar-like taste. (Kombucha is made using a method very similar to the one used to make vinegar.) If you desire a more sweet taste, we recommend a very short brewing period of around 5 days. If you like a more tart taste, a longer fermentation process will allow the tea to culture more fully.

Kombucha

Slightly Sweet

Tangy

Vinegar-like

The taste of water kefir is fairly sweet. Depending on the type of sugar used, the amount of culturing time, etc., water kefir may also be slightly bubbly. We strongly recommend flavoring water kefir made with sugar water prior to consuming it as the taste of plain water kefir isn't particularly pleasant. Flavoring options include fruit (fresh or dried), fruit juice, and flavor extracts.

Water Kefir

Fairly Sweet

Usually Needs Extra Flavoring

Conclusions: Most find kombucha to be more sour or vinegar-like than water kefir. Water kefir is generally sweeter, but the sweetness of both beverages is determined by how long it is cultured.

Does the Starter Culture Multiply?

Kombucha tea cultures do multiply. Each time you brew a batch of kombucha tea a new starter culture will form. The original starter culture (a.k.a. "the mother") and the new starter culture (a.k.a. "the baby") can each be used to brew a new batch of kombucha tea. Sometimes the new kombucha culture will fuse to the original culture; this is not a cause for concern. They can be separated (pulled apart) or used as a single culture when you brew the next batch.

Water kefir grains are known to multiply, but at times they are reluctant to do so and therefore we do not guarantee kefir grains will multiply. Even if they do not multiply, with proper care, water kefir grains can be used repeatedly to brew water kefir. Click here for more information on ways you can encourage your kefir grains to multiply.

Conclusions: Kombucha will generally produce another culture every time you successfully make a new batch. Water kefir grains can multiply but are a bit more finicky and need specific circumstances to do so, even if you have made a successful batch of water kefir.

Is One Better than the Other?

Kombucha can be an aid to digestion. In addition to a wealth of probiotics, it also contains some acids and enzymes to aid in the breaking down of your meals.

Water kefir is more of a general probiotic beverage. While it does contain enzymes and acids, they don't seem to have quite as strong an effect as those in kombucha. However, water kefir contains a greater number of bacterial strains than are found in kombucha.

Both beverages are beneficial in aiding natural systems of the body, and both are great for hydration. Depending on your needs, consuming one or both is more a matter of your individual taste.

Water Kefir: A Kid-friendly Beverage

Water kefir is one of the easiest cultured foods to get kids interested in. If your children love soda pop with all of its sweet bubbliness then they will love water kefir.

Water kefir is made in much the same way as milk kefir, with grains. These grains are placed in sugar water, which the grains feed off of during the culturing process. This is known as the first fermentation.

During a second fermentation the cultured water kefir is bottled with a small amount of juice, flavorings, or dried fruit. The second fermentation produces carbonation and develops flavor.

It might seem difficult to get your child to quit drinking soda, but with water kefir's many child-friendly benefits it may be easier than you think.

Great Taste

Water kefir, as a cousin to milk kefir, contains bacteria and yeast. The starter grains feast on sweetened water rather than milk. This produces a beverage full of friendly bacteria, yeasts, and vitamins and minerals.

Upon a second fermentation a fruit or other component is added. This flavors the water kefir and adds a bit of carbonation. These flavorings help produce a product that, in the end, tastes a bit like fruit-flavored sodas but aren't quite as cloyingly sweet.

Compared to kombucha, water kefir is less acidic, giving it a milder flavor more palatable to kids.

The sweetness of water kefir is dependent entirely on the time that you allow it to culture. The longer it cultures, the more sugars are eaten up by the culture, and the less sweet it will be.

Flavoring Options

Water kefir can be flavored in a plethora of ways. Fruits and juices are common choices, but a cream soda or root beer flavor may also be achieved. Here are some ideas:

- Grape juice
- Cranberry juice
- Other fruit juices
- Dried blueberries or strawberries
- A dash of vanilla (tastes like cream soda)
- Root beer extracts, or other extracts of various barks and roots

To flavor water kefir you must do a second fermentation. You pour the water kefir off into an airtight sealable bottle, saving the grains for your next batch. To each bottle of water kefir add an ounce or so of juice, a few dried fruits or berries, or extracts plus a pinch of sweetener to help with the carbonation (since the extracts usually do not contain any sugars).

You then allow this second fermentation to take place over the course of a few days, during which the water kefir feasts off of the additional sugars in the juice, fruit, or sweetener.

Click here for specific recipes and an instructional video for flavoring water kefir.

Carbonation

It is this second fermentation process that produces the carbonation. By consuming the sugars, the kefir's bacteria and yeasts produce gases. These gases, when trapped in an airtight bottle, result in the carbonation.

The carbonation also adds to the aid in digestion that water kefir already provides. When chilled, the carbonation also makes the kefir a fizzy soda substitute that children will love.

Water Kefir Popsicles

Another great thing about water kefir is its ability to become a frozen treat that your kids will love... and so will you since it is a tasty alternative to sugar-laden popsicles.

Simply pour flavored water kefir into popsicle molds, or mix it with some fruit puree or additional sweetener for an even richer treat.

While it may be a struggle to get your kids interested in sauerkraut or milk kefir, water kefir might be the easiest cultured food to start your kids on. And after they fall in love with it, perhaps the other cultured foods will come naturally.

HOW TO MAKE *Water Kefir*

Choosing a Kefir Culture: Grains vs. Powdered Starter

There are two types of cultures available for making kefir. The traditional method is to use kefir grains, which are a naturally occurring organism originating in the Caucasus (milk kefir grains) or meso-America (water kefir grains). Neither variety of kefir grains actually contains any grain such as wheat, rye, etc. but they are referred to as "grains" due to the appearance of the culture. The second option is known as a powdered kefir starter. This culture is created in a laboratory and is a direct-set variety starter culture, which means it is meant to be used once or maybe recultured a few times before the culture weakens. There are distinct advantages and disadvantages to both types of cultures.

Kefir Grains and Kefir Starter: What They Have in Common

Probiotic beverage. Both kefir grains and kefir starter can be used with numerous types of milks and other liquids to create a probiotic beverage containing live strains of yeasts and bacteria.

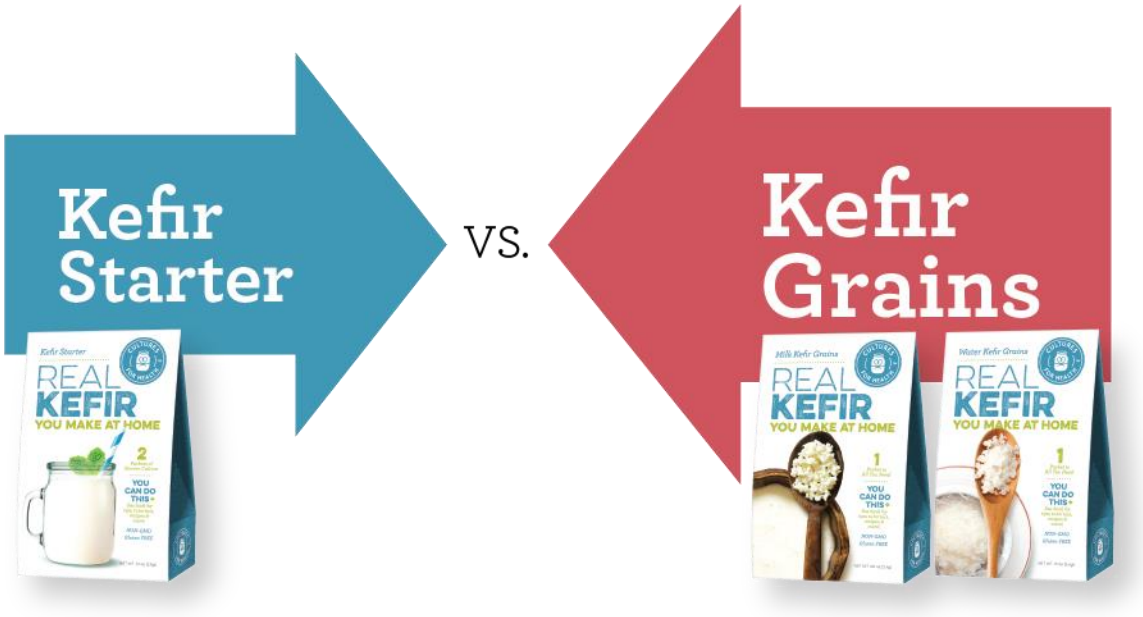
Milk products. Both milk kefir grains and kefir starter can be used with various animal-based milks or coconut milk. Neither is very effective when used with nut milks.

Sugar-based liquids. Both water kefir grains and kefir starter can be used with sugar water, juice, and coconut water.

Ease of use. Both kefir grains and kefir starter are quite easy to use, even for someone who is new to making their own cultured foods.

Bacteria Strains

Generally speaking, powdered kefir starter has 7 to 9 strains depending on the particular brand of starter. Milk kefir grains and water kefir grains contain a long list of bacteria and yeast strains and subspecies, making kefir grains the more probiotic-rich culture for making kefir.



Reusability

Kefir grains are reusable, and with proper care can be used to culture batch-after-batch of kefir. The kefir grains are simply placed in milk or sugar-based liquid, allowed to culture, then removed and

placed in new milk or sugar liquid. A small amount of the kefir made with powdered kefir starter can often be reserved and added to fresh milk to make a new batch of kefir. Generally it can be recultured several times before the bacteria weaken significantly. The number of times powdered kefir starter can be recultured is dependent on a few factors including the freshness of the milk, hygiene, and how quickly the kefir is recultured.

Culture Care

Another way in which kefir grains and kefir starter differ is how the cultures are cared for. Kefir grains can turn out a new batch of kefir every 18 to 48 hours, but to keep them healthy, they must be cared for each day and switched out to new milk or sugar-based liquid every 18 to 48 hours. Small batches (1 to 2 cups) can be made if it becomes difficult to keep up with consuming the kefir being made.

Powdered kefir starter is well suited for individuals who do not wish to make kefir regularly. Kefir starter is kept in packets in the refrigerator or freezer and when kefir is desired, a packet of starter is simply added to the milk and allowed to culture. As stated above, kefir starter can often be recultured a few times before the bacteria weaken significantly.

Powdered kefir starter can be ideal for a family that is traveling and cannot maintain a daily regimen using fresh grains, for instance.

Cost

While kefir grains are more costly upfront, kefir grains are the far more economical option over time because they are truly reusable and can turn out a new batch of kefir every 18 to 48 hours.

Bottom Line

We generally recommend kefir grains as the most natural, economical, and nutrient-dense way to make kefir. However, it is not always practical to maintain kefir grains on a daily basis. Therefore, in situations where it is more practical to make kefir only periodically, we recommend opting for the powdered kefir starter.

Choosing the Best Water Kefir Ingredients

Which sugar and water you use to make water kefir matters for both the final taste of the kefir as well as the health of the kefir culture.

Choosing a Sugar Variety When Making Water Kefir

There are several options when choosing the best sugar to use when making water kefir.

The first is to use plain white sugar. We recommend organic whenever possible to reduce the amount of chemicals the grains are exposed to. White sugar yields a light-tasting water kefir and makes the perfect background for most flavoring options (adding juice, etc. after fermentation is complete).

Second, you can use a whole sugar such as rapadura or Sucanat which do not have the molasses portion of the sugar removed. Using a whole (less processed) sugar yields a stronger tasting water kefir that many people like.

We do not recommend using honey when making water kefir. While honey does yield a light-tasting water kefir and is less processed than white sugar, honey also presents a couple of significant issues. Water kefir grains require certain sugar types to thrive. Sucrose (table sugar) is ideal. Honey is also high in minerals which can be hard on the grains over time. If you do choose to use honey, simply be aware that you will likely have to replace your water kefir grains every few months rather than keeping them for a significantly long period of time.

Choosing a Source of Water When Making Water Kefir

Kefir grains benefit from water sources with higher mineral content. Some water sources such as well water or spring water can be naturally high in mineral content and are ideal for making kefir.

On the other hand, distilled water, reverse osmosis water and water which has been filtered through an activated carbon filter (such as a Britta or Pur filter) often have extremely low or non-existent mineral levels. If using one of these types of water, it is a good idea to either use a high mineral sugar (such as a whole sugar) or add minerals to your water.

Some options for adding minerals include:

- 1/8 teaspoon unrefined sea salt
- 1/4 teaspoon plain baking soda
- 1/2 teaspoon unsulfured blackstrap molasses
- A few drops of liquid mineral supplement (such as Concentrace)
- 1 teaspoon oyster shell (sterilized, the kind that is used in aquariums), or sterilized, crushed eggshell (If you use oyster shell or eggshell, put it in a muslin bag so it doesn't get mixed up with the grains.)

If using tap water, we do recommend filtering the water to remove as many additives, chemicals and contaminants as possible. If filtering is not possible, aerating or boiling the water for 20 minutes will generally remove at least the chlorine. Letting the water stand for 24 hours will also let the chlorine evaporate. Chloramines must be filtered. Fluoride must be removed by filters designed to remove fluoride.

Click here for more information on choosing the right water for your water kefir.

Choosing a Water Source

Many fermented foods make use of water in the culturing process. The water can do a variety of important things:

- Water is a carrier for trace minerals that are sometimes important in culturing.
- Sometimes moisture is necessary to the culturing process, and the moisture is provided by water.
- Bacteria, swimming in water, are able to contact the material being fermented.
- Water with other ingredients (sugar, tea) can become the liquid that is fermented to make the final product.
- The material being fermented is protected from oxygen by staying underwater, which prevents the development of pathogenic bacteria or molds.

No matter what you are culturing, it is vitally important that the water you use be clean and free of pathogens or toxins. Beyond that, certain types of cultures have different requirements for water that you should be aware of to get the best results.

Municipal water quality varies around the country, and so does the quality of spring water and well water. Most cultures are pretty forgiving of water quality as long as the water is drinkable.

Where Your Water Comes From

The water you use for culturing will most likely come from one of four sources:

Well Water. Water that comes from your own well, or a well you share with some neighbors. Some municipalities also get their water from wells.

If your water is from a municipal well, there is chlorine, and possibly fluoride, in the water, as well as any other treatment chemicals the utility chooses to add. Private wells are required to be tested for microbial contamination at the time the well is installed, but not thereafter. Well owners should test their water annually for microbial contamination and chemical contamination from nitrates/nitrites, arsenic, petroleum byproducts, radon, or pesticides.

Well water is typically high in minerals, which is good for water kefir, not so good for kombucha, and really hard on your laundry. If the water is particularly acidic (pH 7.0 or lower), it can cause leaching of metals from plumbing. If well water is discolored or has an odor, there may be an overly high mineral content from ground contamination or from decayed vegetation.

Spring Water. Similar to well water, spring water comes out of the ground and is used close to the source, or bottled for commercial sale. The main difference between spring water and well water is that spring water is collected at the surface of the earth, while well water is collected considerably below the surface. A natural spring is the result of water in an underground source seeping through the ground or rock and bubbling out through the surface.

Spring water is also typically high in minerals.

As a result of having been filtered through earth or rock, spring water is usually considered relatively free of contaminants. However, if the ground it's being filtered through is contaminated, the water itself can be contaminated too. It can also become contaminated in its journey from the spring, through plumbing, to your faucet. Most people do not have springs as a local source of drinking water.

Tap Water. Water that comes from a municipal water source. This could be glacier water, well water, river water, or water collected in a variety of ways.

Tap water may be hard (contains minerals including calcium and magnesium), or soft (relatively free of minerals). Since hard water leaves deposits on tile and fixtures, and doesn't do a great job with laundry, many home owners choose to run their water through a water softener that adds salts to remove the "hard" minerals. To find out what is in your tap water, check with your water utility and they can provide you with a water quality report.

Tap water is inexpensive and plentiful, and is almost always of a quality good enough to drink and cook with. It can usually be used "as is" for many culturing projects.

Water that is too "hard" can be a problem for some cultures, while water that is too "soft" can require remineralization for some other cultures. Tap water also usually contains chlorine, chloramines, or fluoride that must be removed for some cultures to work well.

Bottled Water. You can buy water in plastic bottles almost anywhere these days. Check the labels: it can be spring water bottled at the source, or water collected from rivers or streams, or even municipal tap water.

Bottled water may have fluoride added to it.

Distilled water is a type of bottled water that has been completely purified and contains no minerals or chemicals of any sort. Water that is sold in fountain machines at supermarkets is usually distilled or purified in other ways, and is free of chlorine, fluoride, minerals, or bacterial contaminants.

Common Contaminants


Water that is not distilled is rarely pure. Aside from the natural minerals and salts you may find in even the cleanest sources, there are usually chemicals of some sort in your water.

- **Chlorine** is added to most municipal water sources to keep pathogenic (bad) bacteria from reaching the consumer. This is generally a good thing, since the water usually passes through a variety of reservoirs, pipes, and other contraptions before it reaches your faucet. Water can contain all sorts of bacteria or organisms that are easily killed by chlorine. Unfortunately, that chlorine can also kill the probiotics that you are trying to work with. Chlorine is reasonably safe to ingest in the quantities present in drinking water, although some people are sensitive to it.
- **Chloramines** are a compound of chlorine and ammonia. They are more stable in water than chlorine, and are used by many municipalities to ensure the safety of drinking water. Water treated with chloramines has little taste or smell, so this is an attractive disinfectant process for public drinking water. Like chlorine, chloramines are considered safe to ingest in drinking-water quantities, although some people are sensitive to them. Also like chlorine, chloramines can be toxic to some probiotics.
- **Fluoride** gets into water in two ways. It can be naturally occurring, as a trace mineral from the water source, or it can be added by the water utility. Fluoride occurs naturally in fresh water at around .01 to .3 parts per million. The chemical from which fluoride is derived is fluorine, a very common element that bonds easily with practically anything. It's called fluoride in its bonded form. Sodium fluoride, hexafluorosilicic acid, or hexafluorosilicate are generally used to add fluoride to drinking water, at a concentration of about 1 part per million. There is a tremendous amount of controversy over whether this practice is helpful or harmful. Many municipal water utilities add fluoride to the water. Some do not. Naturally occurring fluoride is rarely a problem in culturing. Added fluoride is generally toxic to young plants, and can also be toxic to certain probiotics.
- **Chemical Waste** can appear in drinking water from a variety of sources. Any chemical waste that is disposed of in drains or on the ground ultimately finds its way into the municipal water supply. Some of it is removed through standard waste treatment, and some shows up in public drinking water. Even well water and spring water can be contaminated if the chemicals are leached into the soil near the water sources. Common chemical contaminants include fertilizers, animal waste, detergents, industrial solvents, pesticides and herbicides, radon, heavy metals, prescription medication, and even decayed plant matter.

Treatment Methods

If you are getting your water from a faucet, you may or may not need to treat it before using it for culturing. Some probiotics are very sensitive to the type of water you're using, while other probiotics are very resilient and can use almost any sort of water. However, if your water is not of drinking quality, you will definitely need to treat it before using it for culturing.

- **Aeration** is a suitable treatment method if all you want to do is eliminate chlorine from the water. Chlorine is very unstable in water, and if you boil the water or put it in a blender for about 20 minutes, the chlorine will percolate out. Or, you can leave water to stand for 24 hours to accomplish the same thing. Aeration will not remove chloramines.
- **Boiling** will take care of most common pathogens that might get into drinking water supplies. It does not eliminate fluoride, chloramines, or other heavy metals or chemicals.
- **Simple Charcoal Filtration** is what you get with a standard countertop or faucet filter system. Charcoal is made of carbon, which bonds with organic materials to remove them from the water it is filtering. Activated charcoal is charcoal that has been processed to open up many tiny pores in the material making more surface area available. Filtering water through activated charcoal is one of the easiest and least expensive ways to remove common contaminants such as bacteria, chlorine, chloramines, etc. Charcoal filtration does not eliminate fluoride.
- **Enhanced Filtration** can be achieved with some types of whole-house filters, or more expensive faucet filters. It usually includes basic activated-charcoal filtration, as well as some chemical or barrier filtration. Enhanced filters will remove some particles that activated charcoal doesn't trap, such as sediment, calcium, etc. Some enhanced filtration systems are



designed to remove fluoride as well, but may require more frequent filter changes due to trapped fluoride.

- **Reverse Osmosis** requires an RO system that may fit under your sink, or may require a separate installation. Reverse osmosis is basically a process of forcing water through a membrane, which removes all particles that are larger than water molecules, but allows the passage of tinier particles. RO systems usually include pre-filters that remove things like chlorine and bacteria from the water before it passes through the RO membrane. RO systems remove most minerals from the water, and will remove most fluoride.
- **Structured Water / pH-Balanced Water / Ionized Water.** Water that has been treated to alkalinize it or to change its structure is not suitable for culturing. Culturing involves a precise interaction of bacteria and the food being cultured. If water is part of that culturing process, the natural structure and balance of the water should not be altered. If your water treatment unit has a setting for "clean water" that does not change the pH and does not alter the water structure, but merely filters out contaminants, then the water can be used for culturing.

What Kind of Water Do You Need?

Most cultures, such as sourdough, cheese, and fermented vegetables, are pretty resilient, and will safely use any water that is suitable for drinking. The water can be rich in minerals, or completely pure. Many people prefer to use water that is free of chlorine and fluoride, and there is no harm in removing those things from the water before you culture.

How to Activate Water Kefir Grains

We ship Water Kefir Grains in a dehydrated state for your safety (reduces the likely hood of spoilage in transit). Prior to making your first batch of water kefir, the kefir grains will need to be rehydrated. This process generally takes 4-5 days.

Supplies for Activating Water Kefir Grains:

- Dehydrated Water Kefir Grains
- Sugar: 4-6 Tablespoons
    - White sugar (preferably organic) or unprocessed sugars such as Rapadura or Sucanat work best; do not use honey, agave, etc. to rehydrated water kefir grains
- Water (non-chlorinated)
    - Well water or spring water is best due to higher mineral content
    - We do not recommend using water filtered through a carbon activated filter (e.g. Britta) or reverse osmosis water due to the depleted mineral levels.
    - If using tap water, remove the chlorine prior to making water kefir by either boiling the water and allowing it to cool or by aerating the water using a blender.
- One glass jar: Quart size
- One towel or paper coffee filter to use as a covering for the jar

- Optional: A fine mesh strainer (plastic or stainless steel) for removing the kefir grains from the finished kefir

Activating Dehydrated Water Kefir Grains:

- Dissolve 4 to 6 tablespoons of sugar in 4 cups water (you will likely need to heat the water so the sugar will dissolve). Be sure to allow the water to cool to room temperature before proceeding to the next step.
- Place the dehydrated kefir grains in the water and cover with a towel or coffee filter secured with a rubber band. Allow the mixture to sit for 3-4 days until the grains are plump. Do not allow the mixture to sit for longer than 5 days.
- Once the grains are rehydrated, click here to learn how to use the kefir grains to make water kefir.
- We do not generally recommend drinking the sugar water used to rehydrate the kefir grains. Since the kefir grains spent their time rehydrating rather than consuming the sugar, the resulting solution will likely contain a large amount of sugar. Also, the sugar water may taste unpleasant as part of the rehydration process is the yeast and bacteria which comprise the kefir grains rebalancing.

Water Kefir Grain Instructions

Before You Begin

- The water kefir grains you received were shipped in a dehydrated state. This ensures they are shelf-stable and can make the trip more safely.
- You have received two teaspoons of dehydrated water kefir grains which will rehydrate to approximately 3 to 4 tablespoons and culture up to two quarts of water kefir per batch. The grains you received may be brown in color due to being grown in unrefined sugar containing molasses. The color is not permanent and will fade if the kefir grains are cultured with white sugar.
- We recommend using glass jars (such as canning jars) and wooden utensils for culturing water kefir.
- Do not consume any kefir that smells, looks, or tastes unpleasant.

Supplies

- One glass jar: quart to half-gallon
- One plastic or wood stirring utensil (we recommend avoiding metal when working with kefir grains)
- One towel or paper coffee filter to use as a covering for the jar
- Water kefir grains
- 1/4 cup organic sugar per quart of water:
    - Evaporated cane crystals or unprocessed sugars such as Rapadura

    - or Sucanat work best;
- Water (non-chlorinated and non-fluoridated)
    - Well water or spring water is best due to higher mineral content.
    - If you use water filtered through a carbon-activated filter (e.g., Brita) or reverse osmosis water, you should add back some minerals due to the depleted mineral levels from filtering.
- If using tap water, remove the chlorine prior to making water kefir either by boiling the water and allowing it to cool, by aerating the water using a blender, or by letting it stand for 24 hours.
- Fluoridated water must be filtered through a filter designed to remove fluoride.

Rehydrating Water Kefir Grains

1. Dissolve 4 to 6 tablespoons of sugar in 4 cups water. (You will likely need to heat the water so the sugar will dissolve.) Be sure to allow the water to cool to room temperature before proceeding to the next step.
2. Place the dehydrated kefir grains in the water and cover with a towel or coffee filter secured with a rubber band. Allow the mixture to sit for 3 to 4 days until the grains are plump. Do not allow the mixture to sit for longer than 5 days.
3. Once the grains are rehydrated, follow the instructions below for making water kefir.

Making Water Kefir

1. To make a quart of water kefir, dissolve 1/4 cup sugar in a small amount of hot water. If making two quarts of water kefir, use 1/2 cup of sugar. Add enough cool water to almost fill the jar leaving 1 to 2 inches of headspace. (Add mineral drops, a pinch of sea salt, a few drops of molasses, or a pinch of baking soda if you have used carbon filtering for the water.)
2. When the water has cooled to room temperature, add the kefir grains. Cover the jar tightly with a towel or filter and rubber band to keep out fruit flies and ants.
3. Allow the kefir to culture for 24 to 48 hours. 24 hours will yield a sweeter water kefir. However, if you are sensitive to sugar, culture the kefir for 48 hours to give the grains a chance to consume a larger portion of the sugar. Do not let the kefir grains culture longer than 72 hours. As the kefir grains culture, you may notice tiny bubbles forming and traveling to the water surface. (Do not be concerned if no bubbles appear.)
4. Once the kefir has cultured for the desired period of time, strain off the finished liquid into a separate container. (Use a fine mesh plastic strainer if possible; stainless steel is acceptable if necessary.) Cover with a tight lid. Finished water kefir does not require refrigeration, but can be refrigerated if you desire a cold beverage.
5. Add the grains to a new batch of sugar water and proceed with your next batch.
6. Please note: it is common for kefir grains not to appear active for the first few weeks. This is not an indication of whether they are working; rather, dehydrated kefir grains can simply take some

time to become fully active. Please see the Troubleshooting section below for more information.

7. If you are culturing multiple products (e.g., yogurt, buttermilk, kefir, sourdough, kombucha, etc.) be sure to keep a distance of at least several feet between cultures so they don't cross-contaminate each other. Over time, cross-contamination may weaken the cultures.

Troubleshooting

- For extensive troubleshooting information, please visit our website:

http://www.culturesforhealth.com/troubleshooting

- After rehydration, you may not see very many (or any) bubbles forming in the liquid. That's okay and does not indicate a problem. Often the bubbles are so tiny and infrequent, you would need

to watch very carefully for an extended period of time. Transfer the grains to new sugar water and proceed with making your first batch.

- To determine whether the grains are "working," simply taste the liquid before and after the fermentation process. Although finished water kefir will still be sweet, it will not be as sweet as the original sugar water. Also, the color of the liquid will change over the 48- hour fermentation period (generally will become lighter in color).
- It can take a few batches before your kefir grains effectively remove sugar from the water. This is a normal part of the process.
- Water kefir carbonation may vary greatly from batch to batch. A lack of carbonation does not indicate a problem with the water kefir grains. Factors influencing carbonation include the type of sugar used. (Using less processed sugars such as rapadura or adding molasses to white sugar will generally produce a more carbonated beverage.) After fermentation (following removal of the grains), fruit juice can be added to the finished kefir and the mixture stored in a container with a tight lid for several days to improve carbonation. Use caution when removing the lid! See the Recipe section below for more information.
- Before bottling water kefir for a second fermentation, carefully inspect the bottles for cracks, as cracks can weaken the integrity of the containers. We also recommend "burping" the containers occasionally during the second fermentation to release excess pressure.
- Water kefir grains are occasionally reluctant to multiply. Even if the kefir grains do not multiply, they can be used repeatedly to brew water kefir.

Additional Information

- Water kefir grains can sit directly in the liquid or can be contained in a large fabric pouch. Be sure the pouch is large enough to accommodate the multiplication of kefir grains should it occur. You may need to secure the pouch with a rubber band to ensure the kefir grains do not escape.
- Water kefir can be flavored with dried or fresh fruit, flavoring extracts, or juice. Dried fruit can soak in the finished water kefir for up to a week. Fresh fruit must be changed daily.
- Water kefir grains can be used with fruit juice rather than sugar water. We recommend caution however as some juices (citrus for example) can harm the grains. Please keep in mind that juice

can be very hard on the kefir grains and we recommend waiting until your kefir grains multiply and you have extras before culturing some kefir grains in juice. See our website for more information.

Removing Water Kefir Grains from Finished Kefir

The best method for removing water kefir grains:

- Use a Plastic Mesh Strainer to strain the grains out of the water kefir. This is our favorite method. The grains can sit loose in the kefir while it's culturing but once it's done, they can be quickly and easily removed and added to new sugar water. Check out our website for a set of plastic mesh strainers. They are also useful for straining milk kefir and kombucha.

If you want your water kefir grains to grow and multiply, there are several ways to encourage them to do so. (For more information, see page 52.)

How to Flavor Water Kefir

Making different flavors of water kefir is easy and fun. The first way to alter the taste of water kefir is to use different types of sugar when culturing water kefir. White sugar is commonly used and will produce a mild-tasting kefir that makes a great background for adding other flavors. Using whole sugars such as Rapadura or Sucanat produces a richer-tasting kefir although a similar flavor can be achieved by adding 1/2 teaspoon molasses to 1/4 cup white sugar per quart of water. We do not recommend using honey as a sugar source when making water kefir. The naturally occurring organic matter in honey may compromise the yeast and bacteria in the water kefir grains. Using honey may eventually weaken the water kefir grains. We also do not recommend using coconut sugar, which may dissolve the kefir grains, and produces a foul smell when cultured. For more information, please visit Choosing the Best Water Kefir Ingredients.

There are numerous options for adding additional flavorings to water kefir:

Water Kefir Lemonade

Make water kefir and remove the kefir grains. Add 1/4 cup lemon juice to each quart of water kefir. Serve cold. Click here to watch a video demonstration.

Orange Zest Water Kefir

Add the kefir grains and several strips of organic orange zest (not the juice) to a standard batch of sugar water. It is important to use an organic orange to avoid exposing the kefir grains to pesticides. Allow the water kefir grains to culture 24 to 48 hours. Remove and discard the orange zest. Remove the kefir grains and serve the kefir cold.

Cream Soda Water Kefir

Make water kefir and remove the kefir grains. Add 2 to 3 teaspoons quality vanilla extract per quart of water kefir.

Blueberry-Pomegranate Water Kefir

Make water kefir and remove the kefir grains. Add 1/2 cup blueberry-pomegranate juice per quart of water kefir. Serve cold. Variation: Use cherry juice or your favorite juice flavor.

Raspberry Juice Water Kefir

Add kefir grains to 1 to 2 quarts of organic raspberry juice. Allow the juice to culture for 24 to 48 hours. Please note: a longer fermentation period will yield a higher alcohol content due to the amount of sugar in the juice. Please use good judgment if serving kefired juice to children.

Fruit-flavored Water Kefir

Make water kefir and remove the kefir grains. Add fresh or dried fruit to the water kefir. If using fresh fruit, change the fruit out every 24 hours; dried fruit can be changed out as infrequently as once a week. Allow the fruit and kefir to sit for 1 to 7 days. Remove and discard the fruit. Please note: water kefir can be cultured and flavored at the same time by having both fruit and kefir grains sitting in the sugar water. If using this method be sure to use low acidic fruits (i.e., avoid pineapple, orange, etc.) and confine either the kefir grains or the fruit in a small cloth bag to avoid the disintegrating fruit becoming mixed with the kefir grains. Be sure to keep the cloth bag submerged in the liquid to avoid attracting mold!

Grape Juice Water Kefir

Add kefir grains to 1 to 2 quarts of organic grape juice. Allow the juice to culture for 24 to 48 hours. Please note: a longer fermentation period will yield a higher alcohol content due to the amount of sugar in the juice. Please use good judgment if serving kefired juice to children. Variation: Use organic apple juice.

Water Kefir "Soda"

Make water kefir and remove the kefir grains. Combine 4 parts water kefir and 1 part fruit juice in a truly airtight bottle such as a Grolsch-style flip-cap bottle or an old wine bottle with a new cork. Allow the mixture to sit for several days at room temperature before refrigerating. Adding the juice continues to feed the live yeast and bacteria in the water kefir (even though the kefir grains themselves have been removed). This process creates gas and normally some level of carbonation. Burp the bottles once per day to relieve excess pressure. Use caution when opening the bottles! Variation: Use water kefir made with fruit juice and bottle as directed above.

Coconut Water Kefir

Add the kefir grains to 1 to 2 quarts coconut water. Allow the mixture to culture for 24 to 48 hours before removing the kefir grains.

Herbal Infusion Water Kefir

Mix one part finished water kefir (kefir grains removed) with one part herbal infusion (e.g., nettle leaf, red raspberry leaf, etc.). Herbal infusions can be made by combining a handful of fresh or dried herbs with one quart boiling water. Allow the herb and water mixture to sit for 6+ hours. Be sure the herbal infusion is completely cooled prior to mixing it with the finished water kefir.

Water Kefir Smoothie

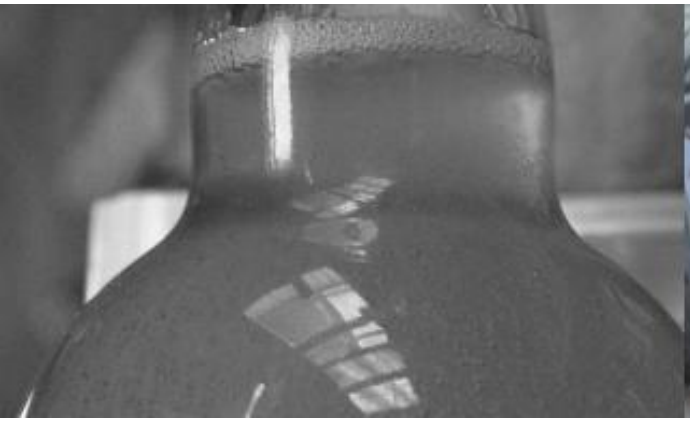
Use water kefir as the liquid base in your favorite smoothie recipe.

Important note: Be sure to check containers carefully for cracks before bottling, as cracks can weaken the integrity of the bottle. We also recommend "burping" the bottles periodically to release excess pressure. For more information about water kefir bottling safety, click here.

Bottling Water Kefir & Kombucha

A Healthier Soda Pop

Did you know that both kombucha and water kefir can be flavored with fruit juice and bottled to produce a lightly carbonated probiotic beverage? Instead of giving your family soda pop full of high fructose corn syrup and artificial colors and flavors, give them a natural healthy beverage!




What You Will Need

- Kombucha or water kefir
  - Click here for information on making kombucha
  - Click here for information making water kefir
- Juice for flavoring (cherry, pomegranate, lemon, blueberry, etc.)
- Airtight containers
  - Grolsch-style bottles work best and can be found at beer/wine making supply stores or purchased on our site.

How to Bottle Kombucha and Water Kefir

Once your kombucha or water kefir has finished fermenting:

- Remove the culture from the beverage (and use the culture to begin a new batch).

- Check the bottle for cracks prior to use as cracks will weaken the integrity of the bottle. This is an important step when bottling any substance that will be under pressure including water kefir, kombucha, lacto-fermented soda, beer, etc.
- Add approximately 1 part juice and 4 to 5 parts kombucha tea or water kefir to the bottle.
- Close the bottle securely and allow the bottles to sit at room temperature for anywhere from 1 to 7 days for kombucha and 24-72 hours for water kefir.
- If you are using very airtight containers such as Grolsch-style bottles, we recommend "burping" the bottles occasionally to relieve excess pressure.
- Place the bottles in the refrigerator. You can skip this step but both kombucha and water kefir tend to taste better chilled. Please note: water kefir tends to become a bit less carbonated as it is chilled so it's best not to place it in the refrigerator until shortly before you plan to drink it.
- Use caution when opening the bottles! The contents are likely to build up pressure. If the caps are not secured to the bottles they can fly up and injure you. Also, the contents can spray and make a mess. We recommend placing a towel over the top of the bottle and applying downward pressure on the cap while opening the bottle to minimize problems. Opening over a sink is also suggested. Open a screw-top just slightly to allow some gases to escape, then a little more gradually to avoid rapid expansion of the bottle contents.

CARING FOR *Water Kefir*

Taking a Break from Making Kefir

Although kefir grains (both milk kefir and water kefir) can be used to make back-to-back batches of kefir, at some point most people will need to take a break from making kefir.

Cold temperatures greatly slow the culturing process for both milk kefir grains and water kefir grains so the refrigerator is quite useful for taking a break from making kefir. Simply add milk kefir grains to fresh milk or water kefir grains to fresh sugar water, cover the container with a lid, and place the container in the refrigerator. The kefir grains should be safe and healthy for up to a few weeks.

If you require a longer period than a few weeks, we recommend drying the kefir grains. To dry your kefir grains, simply rinse them thoroughly with filtered water then lay them on a piece of unbleached parchment paper in a safe location. Allow the kefir grains to dry at room temperature (takes 3 to 5 days depending on humidity and room temperature). Or, you can use a dehydrator if you make sure the grains do not get heated above 85°F.

Once the kefir grains are fully dried, they can be stored in a cool dry location (the refrigerator is best) for at least 6 months. It is generally helpful to store dried milk kefir grains in a small amount of powdered milk as it is healthier for the kefir grains.

Encouraging Water Kefir Grains to Multiply

X2

Generally speaking, once established water kefir grains will multiply*. While at times they can be reluctant to do so, here are a few tips to give you the best odds of seeing your kefir grains multiply:

Give the Kefir Grains Adequate Time

If you just started working with your kefir grains, there may be a bit of an adjustment period and therefore they may not multiply immediately. This is particularly true if you are working with kefir grains that were shipped in a dehydrated state. Once rehydrated, kefir grains can take 6 to 8 weeks to begin multiplying.

Feed Your Kefir Grains Regularly

Water kefir grains should be switched to new sugar water every 24 to 48 hours to prevent them from running out of sugar to eat. Once the kefir grains run out of food, the yeast and bacteria that comprise the kefir grains can move out of balance making the kefir grains work less effectively. How quickly the kefir grains consume the sugar is a function of how warm the area is where they are culturing. In a warm house or on warm days, it's best to switch the kefir grains to new sugar water every 24 to 36 hours to prevent over-culturing.

Only Culture in Sugar Water

Juice tends to be very acidic and while it makes for delicious kefir, putting the kefir grains in juice can be a bit hard on them making it difficult for the kefir grains to multiply effectively. We've had mixed reports as to whether kefir grains will multiply in coconut water but if they do so, it will be very slowly.

Stay Away from Honey

We do not recommend culturing kefir grains in honey water. Kefir grains do best with the exact composition present in sucrose (table sugar). Honey is primarily fructose, and may not provide the best nutrition for the grains. Additionally, raw honey may contain additional organic matter that can compromise the health of the water kefir grains.

Use Proper Ratios of Sugar, Water, and Kefir Grains

While it can be tempting to reduce the amount of sugar used to make water kefir, it is generally detrimental to the health of the kefir grains. We recommend using 1/4 cup sugar per quart of water when making water kefir to ensure that an adequate amount of sugar is available for the water kefir grains. It is also important not to have too many kefir grains in the jar. Somewhere between 3 and 4 tablespoons will adequately culture 1 to 3 quarts of water. The maximum ratio that is optimum is 4 tablespoons per quart of water.

Choose a Warm Spot for Culturing

Within reason, kefir grains like to be warm. Generally ambient temperatures between 68° and 78°F will yield the best results. Be sure to keep the kefir grains out of direct sunlight though to prevent them from overheating.

Keep the Kefir Grains Out of the Refrigerator

The ideal environment for kefir grains is on the counter, at room temperature. Being fed with fresh sugar water every 24 to 48 hours. At times though, it may be necessary to take a break from making water kefir and when necessary they can be stored in the refrigerator, but when doing so, they will be in a state of hibernation. It can be difficult for the kefir grains to come out of a hibernated state repeatedly and so we strongly recommend limiting cold exposure only to times when it is absolutely necessary (e.g., a yearly vacation, etc.). Click here for more information on taking a break from making kefir.

Choose a High-Mineral Sugar

Whole sugars that are less processed will generally have higher mineral content than more processed sugars. Therefore, whole sugars such as rapadura, Sucanat, molasses, and the like will have higher mineral levels than white sugar. Keep in mind though that the type of sugar used will also affect the taste of the kefir. Whole sugars will yield a stronger-tasting kefir than will white sugar.

If possible, use a whole sugar or add a teaspoon of molasses to each quarter cup of white sugar. Either method will increase the mineral levels. If you are looking for a lighter tasting kefir and prefer to just use white sugar, you'll need to rely on your water source or adding minerals to keep your kefir grains healthy.

Choose a High-Mineral Water Source

Kefir grains can also derive minerals from the water. Some water sources such as well water or spring water can be naturally high in mineral content and are ideal for making kefir. On the other hand,

distilled water, reverse osmosis water, and water which has been filtered through an activated carbon filter (such as a Brita or Pur filter) often have extremely low or non-existent mineral levels. If using one of these types of water, it is a good idea to either use a high-mineral sugar or add minerals to your water (see below). If you use tap water, we do recommend filtering the water to remove as many additives, chemicals, and contaminants as possible. If filtering is not possible, aerating or boiling the water will generally remove at least the chlorine.

Add Minerals if Necessary

If it seems unlikely your kefir grains will derive sufficient mineral content from your available sugar and water sources, there are several options for adding minerals (choose one):

- A very small pinch of high-quality salt, such as Celtic sea salt, Himalayan salt, etc.
- A few drops of Concentrace (a liquid mineral supplement)
- A small piece of eggshell, generally about 1/4 shell per quart. Keep in mind that if eggshell is added, it is important to ensure that you do not share your kefir or kefir grains with anyone with an egg allergy.
- Every few batches, add one teaspoon of molasses for each quarter cup of white sugar used.

*Unfortunately, due to the wide variation in circumstances, we cannot guarantee kefir grains will multiply. Even if they do not multiply, the kefir grains can be used repeatedly to make kefir.

Water Kefir FAQ

Q. What is kefir?

A. Kefir is a probiotic beverage made with either kefir grains or a powdered kefir starter culture. There are two types of grains, milk kefir grains and water kefir grains. Milk kefir grains can be used with cow milk, goat milk, or coconut milk. Water kefir grains can be used with sugar water, juice, or coconut water. Kefir grains consist of bacteria and yeast existing in a symbiotic relationship. The term kefir grains describes the look of the culture only. Kefir grains contain no actual "grains" such as wheat, rye, etc. Our kefir grains are grown in filtered water and organic sugar.

Q. Does water kefir have the same benefits as milk kefir?

A. Generally speaking water kefir is slightly less concentrated than milk kefir and therefore some individuals find they consume more water kefir than they would milk kefir. However, due to water kefir's water (rather than dairy) base and great taste when flavored, it is easy to consume larger amounts of water kefir.

Q. What ingredients go into making water kefir grains?

A. Our water kefir grains are grown in filtered water and organic sugar.

Q. What strains of yeast and bacteria does water kefir contain?

A. Click here for information about the numerous strains of yeast and bacteria that are generally known to comprise water kefir grains.

Q. I want to consume kefir but I'm allergic to dairy. Is water kefir a good alternative?

A. Yes! Water kefir contains no dairy. (Please note: water kefir grains are processed in a facility where dairy products are processed.)

Q. Does water kefir contain gluten?

A. No, water kefir grains do not contain gluten. (Please note: water kefir grains are processed in a facility where gluten-based products are processed.)

Q. Are water kefir grains reusable?

A. Yes, water kefir grains are reusable. Once your kefir is finished culturing, simply remove the water kefir grains and place them in fresh sugar water, juice, or coconut water.

Q. How long do water kefir grains last?

A. With proper care, water kefir grains should last indefinitely.

Q. What is the process to make water kefir?

A. Water kefir grains are added to sugar water, juice, or coconut water and allowed to culture for 24 to 48 hours, then the kefir grains are removed. To flavor water kefir (we don't recommend drinking water kefir made with sugar water without flavoring!) simply add fruit juice or flavor extracts (e.g., vanilla extract) to the water kefir. If a more fizzy water kefir is desired, once the juice is added you can bottle it up tightly and allow it to sit for a few days so the carbonation can build.

Q. Can I allow the kefir to culture for longer than 48 hours?

A. We strongly recommend against allowing the kefir grains to culture for longer than 48 hours as over time it will damage the grains by potentially starving them (particularly in warm weather when the culturing process is sped up due to the heat).

Q. How will I know if I've successfully made water kefir?

A. The liquid may lighten in color and turn cloudy. The flavor may become less sweet and it may have a slightly tangy or sour aroma and flavor. We always recommend that you refrain from consuming anything that looks, smells, or tastes unpleasant.

Q. What does water kefir taste like?

A. Finished water kefir will be fairly sweet. (See below for information about sugar content.) Depending on the type of sugar used, the amount of culturing time, etc., water kefir may also be slightly bubbly. We strongly recommend flavoring water kefir made with sugar water prior to consuming it as the taste of plain water kefir isn't particularly pleasant. Flavoring options include fruit (fresh or dried), fruit juice, and flavor extracts.

Q. Will water kefir grains multiply?

A. Water kefir grains are known to multiply, but at times they are reluctant to do so and therefore we do not guarantee kefir grains will multiply. Even if they do not multiply, with proper care, water kefir grains can be used repeatedly to brew water kefir. Click here for more information on ways you can encourage your kefir grains to multiply.

Q. Can I use a plastic container to brew water kefir and plastic bottles to store it?

A. Theoretically food-grade plastic shouldn't cause any damage to the culture but we always recommend glass when working with starter cultures or food due to the potential of plastic to leach undesirable chemicals.

Q. How can I flavor water kefir?

A. Water kefir made with sugar water can be flavored (after the kefir grains are removed!) using fruit (fresh or dried), fruit juice, or flavor extracts. Fruit can be added during or after the culturing process (see below) but should be changed out regularly (daily for fresh fruit, weekly for dried fruit). A tasty lemonade-type drink can be made by adding 1/2 cup lemon juice to 2 quarts finished water kefir. Although just about any fruit juice can be used, we are especially fond of blueberry-pomegranate juice. To make a cream soda-type drink, add 1 to 2 tablespoons vanilla extract to 2 quarts finished water kefir. Click here to view a video and recipes for flavoring water kefir.

Q. Can I flavor water kefir while it's brewing?

A. Yes, technically you can add fruit (fresh or dried) to the sugar water at the same time you add the grains. Several cautionary notes: 1) Not all fruit is compatible with kefir grains and over time, may damage the grains. Strawberries, mangos, and figs are popular fruits to add during the culturing process. 2) Be sure to secure either the fruit or the kefir grains in a cotton muslin bag prior to beginning the culturing process. Fruit (either fresh or dried), tends to disintegrate into lots of tiny pieces during the culturing process making it extremely difficult to separate the fruit from the kefir grains before brewing your next batch. Don't spend hours trying to clean your kefir grains! Contain the fruit in a cotton muslin bag, making it easier to add and remove during culturing.

Q. Can I use juice to make water kefir?

A. Yes, straight fruit juice (we recommend organic) can be used to make water kefir. Note: we do strongly recommend getting your kefir grains established using sugar water (for at least a few batches) prior to using juice. We also advise you to use separate sets of kefir grains for culturing juice and culturing sugar-water. Juice tends to be very hard on kefir grains and they do tend to break down a bit (it helps to culture them in sugar water every few batches). Unfortunately when you use water kefir grains in juice and then move them to sugar water, the resulting kefir usually tastes very unpleasant, thus our recommendation for keeping two sets of grains. (This can be accomplished by waiting for your kefir grains to multiply and splitting them or by purchasing a second set of water kefir grains.) To make juice kefir you will use 2 quarts of juice for the 3 to 4 tablespoons (rehydrated) of water kefir grains included in your packet.

Q. Can I use coconut water to make water kefir?

A. Yes, coconut water can be used to make water kefir. We recommend getting your kefir grains established using sugar water (for at least a few batches) prior to using coconut water.

Q. What amount of kefir grains do I need to make water kefir?

A. 3 to 4 tablespoons of hydrated kefir grains will culture 1 to 2 quarts of water kefir every 24 to 48 hours. Our packets of kefir grains contain 2 teaspoons of dehydrated kefir grains which will rehydrate to 3 to 4 tablespoons of water kefir grains.

Q. How do I remove the kefir grains from my finished water kefir?

A. We recommend either using a plastic mesh strainer.

Q. Where do I store my finished water kefir?

A. Once the culturing process is complete and the grains have been removed, you can bottle up the finished water kefir with or without juice (15% to 20% juice is a good ratio) for several days to allow carbonation to build. Water kefir can be stored in a container with a lid. Options include canning jars, old wine bottles with new corks, and flip-top style bottles. Water kefir bottled in an airtight container with juice will generally be more carbonated than water kefir bottled without juice due to the higher sugar content.

Q. Can I use honey to make water kefir?

A. Technically yes, honey will make a wonderful tasting water kefir. The problem with honey is that honey is antibacterial in nature and the water kefir grains are a mixture of bacteria in yeast. Therefore honey is very hard on water kefir grains and will cause them to weaken (and eventually die). If you really want to use honey, just plan on replacing your grains occasionally.

Q. What type of sugar should I use to make water kefir?

A. A number of types of sugar can be used to make water kefir. For example, evaporated cane crystals (a.k.a. organic white sugar) makes a very mild-tasting water kefir which makes an excellent background for adding flavor. Whole sugars where the molasses is still intact (e.g., rapadura, Sucanat, etc.) also work well for making kefir and are generally considered to be healthier for the kefir grains over the long term as the minerals in the molasses promote kefir grain health. (You can accomplish the same thing

by adding a teaspoon of molasses per 1/2 cup of white sugar.) Whole sugars do tend to make a much more strongly flavored water kefir which you may or may not find pleasant. We do recommend using organic sugars to eliminate chemicals that may harm the kefir grains. We do not recommend using honey (see above). Click here for more information on choosing ingredients (sugar and water) for making water kefir.

Q. Do I need to add sugar if I'm using juice to make kefir (rather than sugar water)?

A. No, there should be enough sugar in the juice to feed the kefir grains.

Q. Is there any danger to using less sugar than is indicated by the instructions that came with my grains?

A. Yes! Making water kefir requires a balance of ingredients to allow the kefir grains to properly culture. We recommend using a ratio of 1/4 cup sugar to 1 quart water when making water kefir. This ratio ensures the kefir grains are properly fed. Using less sugar (or culturing the kefir for longer than 48 hours) can cause the grains to starve. Over time, the grains will become less efficient and although you are using less sugar, you may actually end up with more sugar in the finished kefir than you would with efficient working kefir grains. (See below for information on how much sugar actually remains in finished water kefir). Ultimately, using less sugar will result in unhealthy kefir grains and possibly higher sugar consumption for you.

Q. How much sugar does finished water kefir contain?

A. The remaining sugar in finished water kefir will vary depending on ingredients used and culturing conditions. Generally speaking, water kefir cultured for 48-hours will result in less remaining sugar than water kefir cultured 24-hours under similar conditions.

Q. What type of water should I use to make water kefir?

A. Generally speaking, the best water sources for making water kefir are clean well water or spring water. (Both usually have high mineral content). We do not recommend using distilled water or water filtered through a carbon-activated filter (e.g., Brita, Pur, etc.). Both these methods of purification remove a great deal of the mineral content of the water which results in less healthy kefir grains. If you do need to use one of these types of water, we recommend adding mineral drops to improve the quality of the water. If you use tap water, it is important to remove the chlorine either through boiling (15 minutes) or through aeration (i.e., placing the water in a container and allowing it to sit out overnight or running it through a blender). Click here for more information on choosing ingredients (sugar and water) for making water kefir.

Q. How much alcohol does water kefir contain?

A. As with all cultured and fermented foods, a small amount of naturally occurring alcohol is typically present in the finished product. Although the amount will vary from batch to batch, for the typical brewing period, the amount should be quite low. The exception to this general rule is brewing with 100% juice (rather than sugar water). The higher sugar content can result in a higher alcohol level if left to ferment longer than 24 hours.

Q. Can I use water kefir grains to make alcohol?

A. Yes. Culturing water kefir grains in 100% juice (especially with added sugar) for several days will result in a higher alcohol content. Also, it is possible to make a type of beer using water kefir grains. Click here for more information.

Q. What supplies do I need to make water kefir?

A. Here is a list of water kefir supplies:

- Water Kefir Grains (3 to 4 tablespoons of hydrated grains for 1 to 2 quarts of sugar water, juice, or coconut water).
- Sugar water, juice, or coconut water.
- Non-chlorinated water. (Avoid distilled water or water filtered through a carbon activated filter such as Brita or Pur, unless you add minerals back in.)
- A container to brew the water kefir. We recommend glass canning jars.
- A container to store the finished water kefir: Glass canning jars work for this as well provided they can be tightly sealed; an alternative is to bottle your finished kefir in Grolsch-style (aka flip-top) glass bottles. Click here to view our Grolsch-style Bottles.
- A way to safely remove the grains from the finished kefir: We recommend either using a plastic mesh strainer or containing the kefir grains in a large cotton muslin bag.
- If you are planning to add fruit to the water kefir while the grains are culturing, be sure to have a large cotton muslin bag on hand to secure either the fruit or the kefir grains so you won't have to spend hours separating them later (see above).

Q. How do I take a break from making water kefir?

A. To take a break from making water kefir simply prepare a sugar water solution (1/4 cup sugar to 1 quart water), place the grains in the sugar water, place a tight lid on the container, and place it in the refrigerator. The cold will greatly slow down the culturing process and they can keep this way for up to several weeks. If at the end of that period you require more time, simply repeat the process with fresh sugar water. If you desire a longer break period, you can also dehydrate your water kefir grains by placing them on unbleached parchment paper in a safe location (room temperature) for several days until they are completely dry. Then place the dehydrated grains in a secure container (a zipper-style plastic bag, glass or plastic jar, etc.) and in a cool dry place. They should keep this way for at least 6 months.

Q. If I'm making other cultured foods (yogurt, sourdough, kombucha, etc.), how far apart do I need to keep the kefir culture?

A. We suggest a distance of at least 4 feet between cultures. When your cultured items are being stored in the refrigerator with tight-fitting lids, there is no need to keep distance between them.

Q. Where can I view the instructions for making water kefir?

A. Click here to view our water kefir instructions or click here to watch a video on how to make water kefir.

Q. When I rehydrate my kefir grains, I didn't see any bubbles. Is that normal?

A. Yes. Although water kefir is characteristically bubbly, it can take a number of batches before bubbles are clearly viable. (See below for tips for improving carbonation.) At this initial stage, any bubbles are likely to be too tiny and too infrequent to be noticed. To determine whether the grains are "working", simply taste the liquid before and after the fermentation process. Although finished water kefir will still be sweet, it will not be as sweet as the original sugar water. Also, the color of the liquid will change over the 48-hour fermentation period (generally will become lighter in color). It can take a few batches before your kefir grains effectively remove sugar from the water. This is a normal part of the process.

Q. Can I drink the sugar water used to rehydrate my kefir grains?

A. You can but we don't recommend it. Since the kefir grains spent their time rehydrating rather than consuming the sugar, the resulting solution will likely contain a large amount of sugar. Also, the sugar

water may taste unpleasant as part of the rehydration process is the rebalancing of the yeast and bacteria that comprise the kefir grains.

Q. Can I allow the kefir grains to rehydrate for longer than the recommended 3 to 4 days?

A. We strongly recommend moving the kefir grains to fresh sugar water after 3 to 4 days. Leaving them for a longer period could result in the grains being deprived of food (sugar) and result in damage to the grains.

Q. I'm not sure my kefir grains are working properly? How can I tell if they are healthy and properly culturing the sugar water, juice, or coconut water?

A. The ultimate test of whether the kefir grains are working properly is that the finished kefir is less sweet than the sugar water or juice you started with. The resulting kefir will still be quite sweet (due to the presence of fructose; see above for information on the amount of sugar remaining in finished kefir) but should be less sweet than the sugar water or juice you started with. Also, the kefir will generally change color over the 48-hour fermentation period.

Q. My water kefir tastes flat. How can I increase the amount of carbonation?

A. There are several ways to increase the amount of carbonation/fizz/bubbles in water kefir:

- When working with grains that were previously dehydrated for shipment, it can take a few batches for the finished kefir to be bubbly. This is normal.
- Whole sugars (sugars containing molasses) will normally produce a more bubbly kefir than water kefir made with white sugar. (Adding 1 t. molasses to white sugar has a similar effect.)

- Once the culturing process is complete and the grains have been removed, you can bottle up the finished water kefir with or without juice (15% to 20% juice is a good ratio) for several days to allow carbonation to build. Water kefir bottled with juice will generally be more carbonated than water kefir bottled without juice due to the higher sugar content. Click here to view our Grolsch-style (a.k.a. flip top) bottle which is perfect for bottling your water kefir. Click here for more information on bottling your water kefir.

Q. Is there any danger of the glass container exploding under the carbonation pressure when bottling water kefir?

A. In rare circumstances, a bottle might explode, although lids do occasionally fly off, particularly when being opened. We recommend keeping your whole hand over the lid of the container as you open it to prevent being hit with a flying lid. We also recommend opening the container over a sink in case the carbonation causes the water kefir to bubble over. To reduce the amount of carbonation that can build up, either use less juice in the second ferment, or "burp" the bottles daily to let some gases escape.

Q. I think I may have damaged my kefir grains (e.g., cross-contamination, left them to culture for too long, left them in the fridge for too long, cultured them without enough sugar, etc.)? Can I save them?

A. If you believe your kefir grains have been damaged, click here for more information on a rinse-rest-recover method for repairing damaged water kefir grains.

Q. My water kefir grains are multiplying rapidly. Is there a point where I must remove some of the grains?

A. While only 3 tablespoons of water kefir grains are required to culture up to 2 quarts of water kefir, more grains will not harm the process (and we don't recommend using less than 2 tablespoons of grains

even when making less water kefir). However, at some point, you will likely have so many grains taking up room in your brewing container that you must remove a portion of them as a practical matter (or you simply won't have much kefir available). Extra kefir grains can be dehydrated (see above for instructions on taking a break from making water kefir) or given to friends and family (please be sure to pass along the instructions or a link to this website so they can familiarize themselves with the culturing process).

Water Kefir Grains Troubleshooting FAQ

Q. I misplaced my instructions. Where can I get another copy?

A. Click here to download a copy of our water kefir instructions. Click here for a step-by-step video on making water kefir.

Q. How can I tell if the water kefir grains are working?

A. Following the rehydration process, there are generally two signs that the kefir grains are indeed making kefir:

- Color: The liquid will change color over the 48 hour culturing process. For example, if using white sugar, the plain sugar water will be yellow but finished water kefir will be a more opal color and less translucent. If using a whole sugar containing molasses (e.g., rapadura, Sucanat, etc.), the liquid will change to a different shade of brown (typically a lighter shade of brown).
- Taste: After the 48 hour culturing process, the finished kefir should be less sweet than the sugar water you started with. Please note: finished kefir will still be fairly sweet as it does still contain fructose which is naturally very sweet. But it should be at least a bit less sweet than the original sugar water.

It may take a couple of batches before kefir grains function reliably. It is also common for the taste of the kefir and the activity level of the kefir grains to change over the first 6 to 8 weeks after the kefir grains are rehydrated. This is a normal part of the process of working with a live culture.

Q. What types of sugar can I use to make water kefir?

A. Water kefir grains are fairly versatile. While we do recommend using organic sugar if at all possible (reduces the amount of chemicals the kefir grains are exposed to), most sugars will work for making water kefir. White sugar or organic evaporated cane crystals make a very mild kefir while sugars containing molasses (rapadura, Sucanat, turbinado, etc.) make a stronger tasting kefir. If you are

planning to flavor your kefir with fruit or juice, white sugar normally makes a more neutral backdrop for adding flavorings.

Q. What type of water should I use to make water kefir?

A. Water kefir grains thrive on the presence of minerals in the water but have a hard time with chlorine. Ideally, you will want to use a water source where the chlorine has been filtered out (or otherwise dispersed) but where the minerals in the water are left intact. Here are some specific examples:

- Tap Water: If using tap water, remove the chlorine. Provided standard chlorine is used by your water provider, it can be removed by either boiling the water vigorously for 20 minutes, running the water through a blender for 20 minutes to aerate it, or setting the water out overnight.
- Brita or Pur Brand (or similar) Water Filters: These water filters generally do a good job removing chlorine but they also remove most of the minerals in the water. If using filtered water, add some mineral drops or a small pinch (no more!) quality sea salt such as Celtic sea salt or Himalayan sea salt. Do not use table salt!
- Multi-Pure (or similar) Water Filters: No adjustments to the water are generally needed. If in doubt, check your user manual to see if minerals are routinely removed; if so, use the instructions for the Brita or Pur Water Filters.
- Distilled and Reverse Osmosis Water: Use the instructions for adding mineral drops or salt listed for the Brita or Pur brand water filters.
- Spring Water: Generally a great option as it's normally chlorine-free but does contain natural minerals.
- Well Water: Provided the water is safe to drink, this is often the best option for making water kefir as it doesn't generally contain chlorine but is high in minerals.

Q. All of my strainers are metal. Can I use them with my water kefir grains?

A. While not ideal, stainless steel strainers are okay to use as the kefir grains will have limited contact with the metal. Be sure the strainer is actually made of stainless steel and not a reactive metal.

Q. The kefir grains have been rehydrating for 4 days and they look rehydrated but don't appear to be doing anything. Should I wait longer?

A. Go ahead and transfer the kefir grains to new sugar water to start the first batch of water kefir. It's not uncommon for there to be little or no visible activity from the water kefir grains at this stage. However, it is important that the kefir grains not sit in the sugar water too long or they will run out of sugar to eat which can damage the kefir grains.

Q. Can I keep my water kefir grains in a bag instead of letting them float free?

A. You can keep the kefir grains in a cotton bag (like the kind natural foods stores sell as reusable tea bag). Just be sure to secure the top of the bag so the kefir grains don't escape. Also be sure the bag is submerged in the sugar water. If it floats it can attract mold.

Q. I've made a few batches of kefir and it tastes okay but it smells a little like yeast. Is that normal?

A. Yes, it is normal for the kefir to smell a bit yeasty particularly during the first few batches or when making water kefir during warm weather. In the beginning, the yeasty smell is just a sign that the yeast and bacteria that compose the kefir grains is still balancing itself following the rehydration process. Normally the smell will reduce significantly within a few batches. If the yeasty smell appears later after your kefir grains are well established click here for more information on rinse-rest-recover method for repairing damaged water kefir grains.

Q. I've been working with my kefir grains for a few weeks and the taste of the kefir seems to be changing. It's more fermented than before, a bit less sweet. Is that normal?

A. It is normal for the taste of the kefir to change a bit, particularly in the first few weeks after the kefir grains have been rehydrated. This is due to the yeast and bacteria that compose the kefir grains rebalancing themselves following rehydration. Over the first few weeks you work with the kefir grains,

there will likely be several changes including the kefir becoming less sweet and the kefir grains becoming more active. Often within 6 to 8 weeks, you'll also notice the kefir grains start to multiply. In the meantime though, the kefir grains are still making kefir, but as a live culture, there will be some natural changes as they adjust to their new home.

Q. I've been working with my kefir grains for a few weeks and they still aren't bubbling. What can I do?

A. Give them some time. It's normal to not see any bubbles for 6 to 8 weeks following rehydration. If it's been at least 8 weeks since your kefir grains were rehydrated, try adding a bit of molasses (1 teaspoon per 1/2 cup of white sugar) or using a whole sugar containing molasses (e.g., rapadura, Sucanat, etc.). The minerals in the molasses will feed the grains and often encourage them to be more active.

Q. I've been working with my kefir grains for a few weeks and they still aren't multiplying. What can I do?

A. Give them some time. It's normal for it to take a minimum of 6 to 8 weeks before kefir grains start to multiply. Ultimately though, we can't guarantee they will multiply as there are simply too many factors that influence that process. Odds are very good they will multiply and even if they do not, you can continue to use the same set of kefir grains to make batch after batch of water kefir. Click here for more ideas on encouraging kefir grains to multiply.

Q. Should I add things like ginger juice, eggshell, and baking soda to my kefir grains to keep them healthy?

A. A number of kefir makers like to add things like ginger juice, eggshell, and baking soda to their kefir grains. Strictly speaking, if you are using a quality water and sugar source, additives should not be necessary. (For example, we grow large quantities of kefir grains using nothing but sugar and water). Ultimately we do not recommend additives as there is a danger in using too much (which is very easy to do) which can result in problems including slimy kefir grains.

Q. Can I add fruit, herbs, juice, etc. to the kefir while the kefir grains are still culturing?

A. Yes, technically you can add fruit, herbs, juice, etc. to your kefir while the kefir grains are still culturing but use caution. Adding anything other than sugar and water while the kefir grains are present has a number of risks including contaminating the kefir grains and potentially damaging the kefir grains. For example, acidic fruits can damage the kefir grains by breaking down the yeast and bacteria that compose the kefir grains. Ideally, we recommend waiting to add flavorings until the culturing process is complete and the kefir grains have been removed. While this will mean a batch may take a day or two longer to make, it is normally worth preserving the integrity and long term health of the kefir grains.

Q. My kefir grains have been working well but suddenly they've become slimy. How can I get them working again?

A. Click here for more information on rinse-rest-recover method for repairing damaged water kefir grains.

Q. My kefir grains have been working well but this last batch smelled funny. How can I get them working again?

A. Click here for more information on rinse-rest-recover method for repairing damaged water kefir grains.

Q. My kefir was culturing well but then the last batch or two smell like yeast, but they tasted okay. Is this normal?

A. A yeasty smell can appear particularly during warm weather as the kefir will culture faster at warmer temperatures. The smell can generally be reduced by shortening the culturing period during warmer months. If a yeast odor appears during a time when the kefir would not have been culturing at a warmer than usual temperature, click here for more information on rinse-rest-recover method for repairing damaged water kefir grains.

Q. I forgot about my kefir on the counter and it's been culturing for more than 72 hours. What should I do?

A. The primary issue with leaving kefir grains longer than 48 hours is that at some point they will run out of sugar to eat and begin to starve. This can damage and even kill the kefir grains. If it's been longer than 72 hours, but less than 6 days, immediately feed the kefir grains by putting them in fresh sugar water. Change the sugar water out every 24 hours for the next 2+ cycles until the kefir grains start behaving normally again. If it's been longer than 6 days, the odds of saving the kefir grains go down significantly. Click here for more information on rinse-rest-recover method for repairing damaged water kefir grains.

Q. Some mold has developed on top of the liquid. Can the kefir grains be saved?

A. While it is uncommon to find mold developing on a batch of water kefir, it may occasionally happen. White formations on the surface of the kefir may be mold or may be yeast. **Please contact Customer Support before discarding anything.** If mold does develop, immediately toss the entire batch, including the water kefir grains. Do not try to salvage a moldy batch, even if you do not see mold on the grains themselves. Doing so may be dangerous to your health. Obtain a new set of grains, clean the jar thoroughly, and try again another day.

Q. I need to take a break from making kefir. How can I keep the kefir grains alive?

A. Click here for information on how to take a break from making water kefir (without damaging your kefir grains).

Q. My kefir grains are multiplying quickly. What can I do with the extras?

A. As your kefir grains multiply, you can split them to make multiple batches of kefir. (2 tablespoons of kefir grains is the minimum amount and will culture 1 to 2 quarts). This is a great time to share the many wonderful benefits of making water kefir with friends by giving them some kefir grains to work with. If you'd like to preserve some kefir grains as a backup in case anything happens to your current set, just

lay the kefir grains out on a piece of unbleached parchment paper and allow to air-dry in a warm place (75° to 80°F is ideal) safe from insects (watch out for fruit flies!) for 24 to 72 hours. Once they are completely dry with no moisture remaining, place the kefir grains in a zipper-style baggie and store in a cool dry place or the refrigerator. They will generally keep for a year or longer.

Why Did My Kefir Soda Explode

There are many different kinds of fermented beverages (beer, wine, kombucha, water kefir, lacto-fermented beverages, etc.), but they all have one thing in common. They all require the addition of a fermentable sugar to produce the desired result: lactic acid and carbonation. The bacteria and/or yeast involved in the fermentation process convert the sugar molecules (carbohydrates) into lactic acid, carbon dioxide, and sometimes alcohol. (In the case of beer and wine, yeast organisms produce considerable alcohol, but the bacteria in kefir grains, kombucha scobys, and lacto-fermentation convert the sugar primarily into lactic acid instead of alcohol. Kombucha and water kefir do contain very small amounts of alcohol because they are cultures of yeast and bacteria combined, and even lactic fermentation without yeast can produce trace amounts of ethanol.)

Fermentable sugars are the sugars most of us are familiar with: sucrose in table sugar, glucose (also called dextrose) in honey or corn syrup, fructose in fruit and fruit juices, lactose in milk, and maltose in malted grains. Fruit and fruit juices are commonly used for making kefir sodas since they add flavor as well as a fermentable sugar. Therein lies a potential problem.

Fructose is highly fermentable. In the process of converting fructose to lactic acid, the bacteria and yeast produce a large amount of carbon dioxide. That's great for producing a fun and bubbly beverage, but it can easily become so effervescent that caution must be used when storing the beverage in a tightly capped bottle.

Under proper refrigeration the bacterial action is inhibited, but at room temperature (even cool room temperature), there is enough carbon dioxide produced to cause a capped bottle to explode under the pressure. Even refrigerated bottles may spray out uncontrollably when opened, so it is wise to use caution when opening a bottle of kefir soda made with fruit or fruit juice.

As some people have learned from experience, a bottle of kefir soda that has been stored for several weeks in the refrigerator is best opened outside. Pineapple juice and dehydrated fruit seem to be quite lively ingredients when it comes to producing over-exuberant effervescence.

Here are a few tips for fermenting water kefir with dehydrated fruit or fruit juices:

Use airlocks for the initial fermentation. When your brew has reached the desired level of fermentation, bottle it in flip-top bottles to preserve the bubbles. Burp the bottles at least once a day to relieve excess pressure buildup.

If you will not be consuming all of the beverage within a week, loosen the lid periodically to allow some of the gas to escape. Products fermented with fructose continue to ferment for quite some time, although at a much slower rate in the refrigerator.

Check the temperature of your refrigerator. If you are storing your beverage in an extra refrigerator this is especially important, since you might not notice right away if the refrigerator has quit working properly. It is possible for a bottle to explode in an unattended refrigerator that is not staying under 40°F. This can make for quite a messy clean-up!

Kefir sodas are delicious, nutritious and a great alternative to commercial sodas. Just be sure to exercise a little caution when storing them so you can enjoy the bubbles in your glass instead of on the ceiling.

Rehabilitating Water Kefir Grains

Water Kefir: Rinse, Rest, Recover

Water kefir is a delicious and refreshing drink, loaded with probiotics and easy to make. Under ideal conditions, you can put a couple of tablespoons of water kefir grains in a quart of sugar-water, coconut water, or fruit juice, let it sit for a day or two, then strain, add flavoring, and let ferment for a few more days. The result will be a light, slightly fizzy drink that kids and grownups love to drink.

However, there are a few problems that can come up when the grains are stressed from overcrowding, lack of nutrients, or contamination. These problems include:

- Grains are slimy.
- Kefir is syrupy.
- Kefir smells bad. (Sulfur smell, smells like rotting fruit, smells “like feet,” etc.)
- White film forms on the top of the kefir.
- Grains start to diminish in volume.

These problems can be a result of the kefir grains not properly re-building themselves, which is a result of undernourishment. It can also be an imbalance in the bacteria and yeasts in the culture, which can come from undernourishment, over nourishment, or just the wrong ingredients.

Kefir grains need not just sugar as food; they also need minerals. It's very easy to supplement with minerals when needed. However, while minerals are essential to the good health of water kefir grains, they can also get too many minerals, or an imbalance. Or, they can change their requirements for minerals: having had enough of one mineral, they may now need a different one!

Often water kefir grains will benefit by a short time "on vacation" so they can re-balance. While adjusting the ingredients in your water kefir can be helpful, sometimes it's a good idea to let the grains rest a little as well.

Here's how to give your grains a "rest and recover" treatment that will get them back on the road to robust productivity.

Make a Resting Solution

Start with fresh, clean water. Make sure it does not have fluoride or chlorine in it. If your tap water is fluoridated, it is not likely that an ordinary house filter will remove it. You will have to use bottled spring water, or get a filter specially designed to remove fluoride. Chlorine can be removed by filtering, evaporation, aeration, or boiling. Chloramines, used instead of chlorine in some municipalities, must be filtered out.

If your water contains chlorine and is not filtered, bring the water to a boil for 20 to 30 minutes before letting it cool for five or ten minutes. You will need a quart for the resting solution, plus a quart or more for rinsing the grains.

In a quart-size mason jar, put 4 tablespoons of granulated sugar. The best type to use is an unrefined organic sugar such as turbinado, Sucanat, evaporated cane juice (unbleached), rapadura, etc. You can also use white table sugar. Don't use honey, agave, coconut sugar, or any other type of alternative sugar. (Some of these are okay for culturing, but you want to just keep it simple for now.)

Now, depending on the mineral content of your water and the condition of your grains, you might need to add some mineral supplementation. Small, mushy grains can usually benefit from some minerals. Syrupy kefir is usually a result of too many minerals. If you have an idea of the mineral content of your water, add minerals to soft water, or leave them out of hard water.

You can choose any *one* of the following:

- 1/8 teaspoon unrefined sea salt
- 1/4 teaspoon plain baking soda
- 1/2 teaspoon unsulfured blackstrap molasses
- A few drops of liquid mineral supplement (such as Concentrace)

Fill the mason jar with the boiled water to about an inch or two from the top, and let it cool to less than 85 degrees Fahrenheit. Use a kitchen thermometer to ensure that the water is properly cooled before adding the grains. Set the rest of the water aside. When it is cool, you can rinse the kefir grains.

Rinse the Grains

Ordinarily you should not need to rinse the kefir grains, but if they have gotten to the point where they are slimy or stinky, it's a good idea to clean them off.

Put some filtered or boiled, cooled water in a shallow bowl, and set up a plastic mesh strainer so you can put the grains in the strainer and have them bathed in the water.

Stir the grains around in the strainer gently with your finger, brushing them lightly up against the strainer. This will clean off any loose yeast or contaminants off the surface of the grains without damaging them.

Pour off the water, which will be cloudy.

Repeat the rinsing a few times until the discarded water is pretty clear. Your grains are now "naked" and ready to rest.

Rest the Grains

Put the cleaned grains in the prepared solution, and cover the jar with a plastic lid. (If all you have is a metal lid, put a coffee filter over the top of the jar, then put the lid on top of that.)

Now put the jar of grains and water in the refrigerator and leave them there for at least three or four days. The cold will put the grains to sleep. They can stay in the refrigerator for as long as a month, resting and rebuilding.

Get the Grains Back to Work

After your grains have rested, you are ready to make a new batch of kefir.

Set up the new kefir solution the same way you made the resting solution, with clean water, granulated sugar, and mineral supplementation if needed.

Strain the grains out of the resting solution. If you want, you can save the liquid. If it has only been in the refrigerator for a few days, it will be mostly sweet water with some probiotics in it. If you left it in the refrigerator for a long time, it may be very lightly fizzy and can be treated like kefir. In any case, it should smell better than it did before you started. If the grains still seem distressed (slime, bad smell, or white film), make a new batch of resting solution and rest the grains again.

Add the rested grain to the new kefiring solution. You should have between 2 and 4 tablespoons of grains to a quart of water. If you have more grains than that, you can either divide them into smaller batches and make more jars, or use a larger jar. Make sure you maintain the right proportions of sugar and minerals in the water.

Cover the jar with a paper towel or coffee filter secured by a rubber band, and let the grains sit for 24 to 48 hours.

The resulting kefir should be clean and fresh, and ready for you to strain off, flavor, cover, and let sit for a couple of days to ferment again.

Badly damaged grains may require two or three cycles of rinse, rest, recover. The good news is that once they are fully recovered, you can continue to use them for many months to come.

Water Kefir
FLAVORING

10 Easy Ways to Flavor Water Kefir



Water Kefir Lemonade

Make water kefir and remove the kefir grains. Add 1/4 cup lemon juice to each quart of water kefir. Serve cold. Click here to watch a video demonstration.

Orange Zest Water Kefir

After the kefir grains have been removed, add several strips of organic orange zest (not the juice) to the finished batch of water kefir. Allow the kefir to culture 1-3 days or until desired flavor is reached. If culturing in an airtight bottle, remember to burp it daily to relieve excess pressure. Remove and discard the orange zest and serve the kefir cold.

Cream Soda Water Kefir

Make water kefir and remove the kefir grains. Add 2 to 3 teaspoons quality vanilla extract per quart of water kefir.

Blueberry-Pomegranate Water Kefir

Make water kefir and remove the kefir grains. Add 1/2 cup blueberry-pomegranate juice per quart of water kefir. Serve cold. Variation: Use cherry juice or your favorite juice flavor.

Raspberry Juice Water Kefir

Add kefir grains to 1 to 2 quarts of organic raspberry juice. Allow the juice to culture for 24 to 48 hours. Please note, a longer fermentation period will yield a higher alcohol content due to the amount of sugar in the juice. Please use good judgment if serving kefired juice to children.

Fruit Flavored Water Kefir

Make water kefir and remove the kefir grains. Add fresh or dried fruit to the water kefir. If using fresh fruit, change the fruit out every 24 hours; dried fruit can be changed out as infrequently as once a week. Allow the fruit and kefir to sit for 1 to 7 days. Remove and discard the fruit.

Strawberry Lemonade Water Kefir

Pour 3 ½ cups of finished water kefir into airtight bottles, dividing evenly between two or three bottles. Using a funnel, divide ½ cup of pureed strawberries evenly between the bottles. Juice one large lemon and divide the juice evenly between each bottle. Cap the bottles and allow to second-ferment for 1-3 days, depending on the desired carbonation level. Always remember to burp the bottles daily to relieve excess pressure buildup. Place bottles of flavored kefir in fridge and serve chilled.

Water Kefir "Soda"

Make water kefir and remove the kefir grains. Combine four parts water kefir and one part fruit juice in a truly air-tight bottle such as a Grolsch-style flip-cap bottle or an old wine bottle with a new cork. Allow the mixture to sit for several days at room temperature before refrigerating. Adding the juice continues to feed the live yeast and bacteria in the water kefir (even though the kefir grains themselves have been removed). This process creates gas and normally some level of carbonation. Use caution when opening the bottle!

Coconut Water Kefir

Add the kefir grains to 1 to 2 quarts coconut water. Allow the mixture to culture for 24 to 48 hours before removing the kefir grains. The grains must be returned to a batch of sugar water after each batch made with coconut water in order to keep the grains healthy.

Herbal Infusion Water Kefir

Mix one part finished water kefir (kefir grains removed) with one part herbal infusion (e.g., nettle leaf, red raspberry leaf, etc.). Herbal infusions can be made by combining a handful of fresh or dried herbs with one quart boiling water. Allow the herb and water mixture to sit for 6+ hours. Be sure the herbal infusion is completely cooled prior to mixing it with the finished water kefir.

Water Kefir Smoothie

Use water kefir as the liquid base in your favorite smoothie recipe.

Making Kefir with Fruit Juice

A fun variation to water kefir (generally made with sugar water) is to use fruit juice. Fruit juice kefir is a delicious containing the probiotic benefits of kefir.

Fruit juice kefir can be made with either water kefir grains or a powdered kefir starter culture. We recommend using water kefir grains for two reasons. Water kefir grains are accustomed to being used with sugar water which is more similar to juice than is milk. Water kefir grains can go back and forth between sugar water and juice given some time and adjustment (see below). Kefir grains are also reusable to make batch after batch whereas the powdered kefir starter culture has a more limited lifespan.

To make fruit juice kefir, add water kefir grains to the fruit juice (either 100% juice or a diluted juice). We do recommend using organic juice whenever possible to avoid the chemicals present in commercial juice which could damage the kefir grains. Allow the fruit juice kefir to ferment for 24-72 hours. Keep in mind that the longer the juice ferments, the higher the alcohol content. We do recommend that if you are making fruit juice kefir for children, fermentation should be limited to a 24-48 hour period. If you are looking for a more "adult" beverage, a longer fermentation period may be desirable. Once the fermentation period is complete, remove the kefir grains and place them in fresh juice or sugar water.

A couple of caveats: First, juice tends to be very hard on water kefir grains. Although they can be used repeatedly in a juice medium, they should be returned to plain sugar water occasionally to revitalize

them. Keep in mind that kefir grains that have cultured in fruit juice and are then returned to sugar water make a very unpleasant tasting sugar water kefir for a period of time, so don't plan on alternating batches of fruit juice and sugar water while still having delicious sugar water kefir to drink. Also, it is highly unlikely that water kefir grains used with fruit juice will multiply and the fruit juice kefir grains will likely have a significant shorter lifespan than kefir grains cultured in sugar water.

We recommend whenever possible to keep two separate sets of water kefir grains: one for sugar water and one for juice (each set can be stored in sugar water in the fridge when not in use). You can accomplish this by purchasing two sets of kefir grains or by waiting until your set of kefir grains multiplies to the point you can use 3 T. of kefir grains for sugar water and 3 T. of kefir grains for fruit juice. This allows you to make both fruit juice kefir and sugar water kefir without interruption.

Apple "Cider" Water Kefir

The best apple cider happens once a year, in those lovely days of fall. Fresh apples are pressed to create a tangy-sweet juice, which can then be fermented to make a most delicious and refreshing hard cider.

Flavoring water kefir with apple gives it a delicious faint apple cider flavor. It is light, crisp, and refreshing and, because it is water kefir, full of probiotics. You can use either apple juice or fresh apples for this, the latter being more exciting for the fruit-tree enthusiast.

Ingredients

- 3-1/2 cups water kefir
- 1/2 apple (sweet or sweet-tart), diced, OR 1/4 cup apple juice
- 1 teaspoon Sucanat or sugar (optional)

Instructions

1. Remove the water kefir grains from the first ferment of your water kefir. Pour the water kefir into a quart-size jar and add apple chunks or juice.
2. Move this to a quart-size airtight bottle or two pint-size bottles. If your water kefir wasn't very sweet after the first fermentation you can add the Sucanat for extra carbonation.

3. Shake bottles to distribute apple or apple juice and Sucanat. Leave tightly capped at room temperature for 2 to 5 days, or until desired level of carbonation and sweetness is achieved. (The second fermentation will become less sweet as the days go on.)

Open carefully in case of extreme carbonation, strain off apple, and serve chilled. Store in the refrigerator to preserve freshness.

Any Berry Water Kefir

Berries are one of the most delicious and nutritious foods. Eaten out of hand, on top of yogurt, in smoothies, in pies, in cobblers, or in your favorite fizzy drink, these summer delights are one of the most exciting foods we can eat.

They also make delicious flavorings for water kefir. Sweet June strawberries give water kefir a bright red sweetness; raspberries lend their tangy, rich, jam-like flavor; blueberries create a subtly sweet purple-hued fizzy beverage; and cranberries are just delightfully red and tangy.

Use any of these berries, on their own or in combination, to create bright summer berry-flavored water kefir. They can be added fresh throughout the summer, or frozen and dehydrated for the winter months.

Ingredients

- 3-1/2 cups water kefir
- 6 large berries (strawberries or large blackberries) or 10 smaller berries (blueberries, raspberries, or cranberries)
- 1 teaspoon Sucanat or sugar (optional)

Instructions

1. Remove the water kefir grains from the first ferment of a batch of water kefir.
2. Move the water kefir to a quart-size airtight bottle or two pint-size bottles and drop in the berries. If your water kefir wasn't very sweet after the first fermentation you can add the Sucanat for extra carbonation.
3. Swirl the bottles to distribute the berries and Sucanat. Leave tightly capped at room temperature for 2 to 5 days, or until desired level of carbonation and sweetness is achieved (the second fermentation will become less sweet as the days go on).

Store in the refrigerator to preserve freshness. Open carefully in case of extreme carbonation, strain off berries, and serve chilled.

Lemon-Lime Water Kefir

This zingy, fizzy, and slightly sweet water kefir is reminiscent of commercial lemon-lime soda. It's incredibly refreshing and requires only a quick squeeze from a couple of handy citrus fruits.

Ingredients

- 3-1/2 cups water kefir
- 1 lemon
- 1 lime
- 1 teaspoon Sucanat or white sugar (optional)

Instructions

1. Remove the water kefir grains from your first culturing of water kefir, and pour it into a quart-size vessel.
2. Juice the lemon and lime through a sieve to remove the seeds, then pour the juice into the water kefir.
3. Move this to a quart-size airtight bottle or two pint-size bottles. If your water kefir wasn't very sweet after the first fermentation you can add the Sucanat for extra carbonation since the citrus fruits don't contain much sugar.

4. Swirl the bottles to distribute the juices and Sucanat. Leave tightly capped at room temperature for 2 to 5 days, or until level of desired carbonation and sweetness is achieved (the second fermentation will become less sweet as the days go on).

Store in the refrigerator. Open carefully in case of extreme carbonation and serve chilled.

Orange-Vanilla Water Kefir

The combination of orange and vanilla is a match made in heaven. There's the old-time push-up pop with layers of orange sherbet and vanilla ice cream, and then there's the creamy orange drink that can be made healthy with cultured dairy and natural sweeteners.

For a bubbly orange-vanilla soda-like drink, try this orange cream water kefir. It might remind you of youthful summer days with an orange-cream ice pop in hand.

Ingredients

- 3-1/2 cups water kefir
- Juice of two small oranges, or one large juicy orange
- 1/2 teaspoon vanilla extract

Instructions

1. Remove the water kefir grains from your first culturing of water kefir and pour into a quart-size vessel. Juice the two small oranges into the water kefir, using a sieve to remove the seeds.
2. Move this to a quart-size airtight bottle or two pint-size bottles.

3. Swirl the bottles to distribute the juice throughout the water kefir. Leave tightly capped at room temperature for 2 to 5 days, or until level of desired carbonation and sweetness is achieved (the second fermentation will become less sweet as the days go on).

Store in the refrigerator. Open carefully in case of extreme carbonation and serve chilled.

Lemon-Ginger Water Kefir

This is an easy recipe, and tends to be a favorite with kids!

Ingredients

- 3-1/2 cups of finished water kefir
- 1 tablespoon organic lemon juice (fresh or bottled)
- Ginger root, 1-inch piece peeled and sliced into sticks

Instructions

1. Add the lemon juice and the ginger root to the finished water kefir.
2. Cover lightly and allow the mixture to sit for 2 to 3 days to ferment. Refrigerate before drinking (tastes best cold).

If desired, a small amount of fruit juice can be added for additional flavor just prior to drinking. We do not recommend adding this additional juice and allowing the mixture to ferment further as it will often yield an overly fermented-tasting beverage.

Water Kefir Lemonade

Ingredients

- 1/4 to 1/3 cup lemon juice
- 1 quart water kefir

Instructions

Add the lemon juice to the water kefir and stir to combine. Can be consumed immediately or chilled.

If a slightly carbonated beverage is desired, bottle the mixture in airtight bottles. Leave the bottles at room temperature for 2 to 3 days before refrigerating.

Use caution when opening the bottles as the contents may be under pressure. We recommend placing a towel over the top of the bottle, keeping downward pressure on the top as you slowly release the seal.

Piña Colada Water Kefir Punch

By combining the flavors of pineapple and coconut, you can enjoy the delightful experience of a piña colada. Use pineapple-flavored water kefir that has been carbonated to perfection, and you get a sweet, tasty, and probiotic-rich punch.

Ingredients

- 1 can full-fat coconut milk
- 1 cup sweetener of choice
- 3 quarts pineapple-flavored water kefir

Instructions

1. Warm the coconut milk in a small saucepan with the sweetener. Continue to cook over low until the sweetener is dissolved, whisking constantly.
2. Chill to room temperature.
3. In a large punch bowl, combine the sweetened coconut milk, pineapple-flavored water kefir, and as much ice as desired. Stir well to combine and serve.

Makes one gallon.

Pineapple-flavored Water Kefir

The sweet, juicy flavors of pineapple lend a tantalizing flavor to water kefir. The end result is carbonated, slightly sweet, and strongly or lightly flavored with pineapple, depending on the method you choose.

For flavoring your water kefir with pineapple you can use one of the following three ingredients to achieve the indicated level of flavor:

Pineapple juice – Heavily flavored with pineapple, sweeter than the other variations.

Pineapple fruit – Moderately flavored with pineapple, medium sweetness.

Pineapple rind – Light pineapple flavor, mild sweetness. (Bonus: Use the rind you would otherwise throw out!)

Ingredients

- 3-1/2 cups water kefir
- 1/2 cup pineapple juice or several chunks of pineapple fruit or the rind of a whole pineapple

Instructions

1. Combine cultured water kefir and pineapple ingredient of choice in airtight bottles. Divide the ingredients among the number of bottles you will need to use, leaving a bit of air space in each.
2. Cap tightly and allow to ferment for 1 to 5 days, depending on the temperature in your home and the activity of your water kefir. Be sure to burp the bottles daily to relieve excess pressure buildup.

To serve, either chill the juice-containing water kefir or strain out the fruit or rind-containing water kefir and serve chilled or over ice.

Refreshing Grapefruit Water Kefir

Reminiscent of commercial grapefruit-flavored sodas, this tangy beverage is perfectly refreshing. Use red grapefruit for juicing for the prettiest color and sweetest flavor.

Ingredients

- 3-1/2 cups water kefir
- Juice of 1/2 large grapefruit
- 1 teaspoon sugar

Instructions

1. Combine water kefir with grapefruit juice and sugar in airtight bottles, leaving headspace in each one.
2. Cap tightly and allow to culture for 2 to 5 days, or until carbonated to your liking.
3. Chill in refrigerator. Open carefully in case the contents of the bottles overflow.

Serve cold or over ice.

Mojito-flavored Water Kefir

Mint, lime, and sweet-tangy water kefir come together to form this incredibly refreshing drink perfect for a hot day. Pour over and ice and serve it to your guests with a sprig of mint while you shoot the breeze on your front porch.

Ingredients

- 3-1/2 cups cultured water kefir
- 1 tablespoon mint leaves, bruised to release flavor
- Juice of 2 limes
- 1 to 2 teaspoons of sugar if needed for sweetness

Instructions

1. Combine water kefir with mint, lime juice, and sugar in airtight bottles, leaving headspace in each one.
2. Cap tightly and allow to culture for 2 to 5 days, or until carbonated to your liking.
3. Chill.

Open carefully in case the contents of the bottles overflow. Strain out the mint and serve cold or over ice.

Flavoring Water Kefir with Syrup from Canned Fruit

There are many ways to flavor water kefir. For a sweet, fruity beverage all it really takes is some fruit, fruit juice, and a pinch of sugar if you like.

If you eat seasonally and end up canning the summer fruit harvest, then you might have jars upon jars of various fruits in your pantry. Without frozen or dried fruit, it might seem that you don't have much in the way of flavorings for your water kefir.

Canned fruits tend to be quite soft, and not nearly as flavorful as fresh, frozen, or dried fruits since during the canning process much of the sugar and flavor from the fruit end ups in the syrup or juices that the fruit are canned in.

Because of this, you might consider using the syrup from the canned fruit as the flavoring for the second fermentation of your water kefir. Eat up all those delicious peaches, pears, or cherries, then pour the juice off for use in fizzy, flavorful water kefir.

Canned peaches make a particularly nice light flavoring for water kefir.

Ingredients

- 3-1/2 cups finished water kefir
- 1/4 cup syrup from canned fruit

Instructions

1. Remove the water kefir grains from your first culturing of water kefir. Add the cultured water kefir to a quart-size vessel and pour in the fruit syrup.
2. Move this to a quart-size airtight bottle or two pint-sized bottles.
3. Shake bottles to distribute the juice. Leave, capped tightly, at room temperature for 2 to 5 days, or until level of desired carbonation and sweetness is achieved. (The second fermentation will become less sweet as the days go on.)

Store in the refrigerator. When ready to drink, open carefully in case of extreme carbonation, and serve chilled.

Coconut Water Kefir

The natural goodness of coconut water is further enhanced with the addition of probiotics from the water kefir culture.

Ingredients

- 1 quart coconut water (additive-free)
- 3 tablespoons water kefir grains
- Optional flavoring: 1 cup fresh fruit (mixtures of berries, lemon, etc. work best)

Instructions

Place the water kefir grains in the coconut water. Cover the jar loosely and allow the kefir grains to culture the coconut water for 24 to 48 hours. Once the culturing process is complete, remove the kefir grains.

To add fruit flavoring, puree together the coconut water kefir and the fruit.

Note: Ideally water kefir grains should be cultured in sugar water (1/4 cup sugar and 1 quart water) for 24 to 48 hours between batches of making coconut water kefir. The sugar water will feed and refresh the kefir grains keeping them healthy for the long term.

Water Kefir
RECIPES

Tasty Treats

Piña Colada Water Kefir Ice Pops

These ice pops are creamy, sweet, and reminiscent of the islands. In addition to having very little sugar, they also contain something most commercial popsicles don't: probiotics.

Use fresh pineapple and puree enough to make 2 cups or just use a canned pineapple puree. You can also replace the water kefir with coconut water kefir for even more coconut flavor and goodness.

Ingredients

- 1-1/2 cups water kefir
- 1-1/2 cups coconut milk
- 2 cups pineapple puree
- 1/4 cup raw honey
- Pinch of salt

Instructions

1. Place all ingredients in a blender or food processor and blend until smooth.

2. Pour mixture into ice pop molds and freeze for one hour, or according to the directions on the mold. Insert handle sticks, if using, and return to freezer.
3. Freeze until completely firm, about 6 hours or overnight.

To serve, allow to sit at room temperature for about 5 minutes before removing from the molds.

Coconut Water Kefir Ice Pops

Ingredients

- 2 cups coconut water (additive-free)
- 3 tablespoons water kefir grains
- 1 cup fresh fruit (mixtures of berries, lemon, etc. work best)

Instructions

1. Place the water kefir grains in the coconut water. Cover the jar loosely and allow the kefir grains to culture the coconut water for 24 to 48 hours.
2. Once the culturing process is complete, remove the kefir grains.
3. Puree together the coconut water kefir and the fruit.
4. Pour into ice pop molds, freeze and serve.

Rainbow Fruit Water Kefir Ice Pops Recipe

These ice pops are so easy to make, you will hardly believe it. They are just barely sweet from the water kefir and the fruit, and are incredibly refreshing. They're also beautiful when made with an array of fruits of various colors.

Ingredients

- 1 to 2 cups chopped fruits of various colors: berries, kiwi, grapes, pineapple, mango, etc.
- Water kefir

Instructions

1. Fill ice pop molds 3/4 of the way with chopped fruits.
2. Pour water kefir into the molds over the fruit, leaving about 1/2 inch of headspace.
3. Freeze for about 6 to 8 hours.

To serve, allow to sit at room temperature for about five minutes before removing from the molds.

Water Kefir Fruit Juice Ice Pops

Combine freshly cultured water kefir with freshly squeezed juice for delicious ice pops without the added sugar.

Ingredients

- 1 cup water kefir
- 1 cup fruit juice

Instructions

1. Combine water kefir and fruit juice, whisking well to combine.
2. Pour mixture into ice pop molds, leaving about ½ inch of headspace.
3. Add handle sticks, if using.
4. Freeze as indicated on the ice pop mold, around 6 to 8 hours.

To serve, allow to sit at room temperature for about 5 minutes before removing from the molds.

Lemon Water Kefir Ice Pops

Ingredients

- 2 cups water kefir
- 2 to 3 tablespoons fresh lemon juice

Instructions

Mix the water kefir and lemon juice together and pour into popsicle molds. Freeze and serve.

Variation: Mash strawberries or raspberries with a mortar and pestle. Mix into the water kefir and lemon juice prior to freezing.

Raspberry Kefir Granita

Ingredients

- 2 cups water kefir
- 1+ tablespoon fresh lemon juice
- 3 cups fresh raspberries

Instructions

1. Add the lemon juice to the water kefir and mix well.
2. Puree the raspberries and strain them into the water kefir mixture. If they are very soft, you can simply force them through the strainer.
3. Stir the mixture to fully incorporate the raspberry puree.
4. Place the mixture in a 9x13-inch glass baking dish. Place the container in the freezer for about 30 minutes.
5. Ice will begin to form along the edges where the mixture meets the pan. Using a fork, stir the icy portions into the center of the pan. Repeat this process every 20 to 30 minutes until the mixture is frozen (generally about 3 to 4 hours).
6. Using a fork, scrape the frozen granita into flakey crystals. Cover tightly and freeze.

Can be served with fresh berries or a sprig of mint.

Shamrock Water Kefir Shake

The average smoothie is full of sweet and tangy fruits. This is not an average smoothie.

Although low in sugar, this smoothie is heavy on the probiotics, healthy fats, and greens.

It won't be easily mistaken for the overly sweetened commercial shamrock shake, but its color and slightly sweet peppermint flavor will leave you feeling satisfied.

Ingredients

- 1-1/2 cups water kefir
- 1/2 cup coconut milk
- 1/2 ripe medium avocado
- 3 large kale leaves
- 1/4 teaspoon mint extract
- 1 to 3 teaspoons honey, or to taste
- 4 large ice cubes

Instructions

1. Combine water kefir, coconut milk, avocado, and kale in blender. Blend until smooth.
2. Add mint, honey, and ice cubes and blend until completely mixed.
3. Taste and add more honey as desired for sweetness. Blend again until completely combined.

Serve immediately.

Tangy Citrus Water Kefir Gelatin Dessert

Citrus juice and water kefir have a delicious affinity for one another. The slightly sweet and fermented beverage just cries out for a hit of tangy brightness.

This gelatin dessert combines the two in a delicious dessert or snack that you can gladly hand out for after-school snacks.

Ingredients

- 3-1/2 cups water kefir, or 3 cups if using orange or grapefruit juice
- 1/2 cup lemon or lime juice *or* 1 cup orange or grapefruit juice
- 4 tablespoons raw honey, to taste (more for lemons and limes and less for orange juice)
- 5 tablespoons gelatin powder

Instructions

1. Combine 2 cups of water kefir (2-1/2 if using lemon or lime) with the citrus juice, whisking well. Taste and add as much honey as desired.
2. Pour 1 cup of water kefir into a small sauce pan. Sprinkle the gelatin powder over the top and put over a very low burner. The mixture should be just barely warm in order to dissolve the

gelatin powder. The mixture should not get very warm or hot as that will destroy the beneficial probiotics and enzymes of the water kefir.

3. Once the gelatin begins to dissolve, take it off the burner and whisk well, making sure to scrape the bottom and sides of the pan for any gelatin powder that is sticking to the pan.
4. Once the gelatin has completely dissolved, combine the mixture with the water kefir and citrus juice combination. Pour the liquid into a large glass bowl or baking dish, then place immediately in the refrigerator to chill for about 4 to 8 hours.

Once set, serve cold with whipped cream, whipped coconut cream, or on its own.

Blended Berry Water Kefir Gelatin Dessert

Making gelatin dessert with water kefir and berries isn't that much of a stretch when you're making fizzy bottles of berry-infused water kefir already.

Just blend up some berries with a bit of water kefir, combine it with even more water kefir and gelatin, and chill until cold, gelled, and delicious. Make it as sweet as you like with just the right amount of honey.

Ingredients

- 3 cups water kefir, plus more as needed
- 1 cup tightly packed fresh berries
- 3 tablespoons raw honey, optional
- 5 tablespoons gelatin powder
- Fresh berries, optional

Instructions

1. Combine 1 cup of the water kefir and berries in a blender. Blend until liquefied. If liquid level has not reached 2 cups, add more water kefir and blend. Taste and add honey if desired.

2. Pour 1 cup of water kefir into a small saucepan. Sprinkle the gelatin powder over the top and put over a very low burner. You should just barely warm the mixture in order to dissolve the gelatin powder. Do not get this mixture very warm or hot in any way as that will destroy the beneficial probiotics and enzymes of the water kefir.
3. Meanwhile, slice the berries (if large) and place in the bottom of a large glass bowl or baking dish.
4. Once the gelatin begins to dissolve take it off the burner and whisk well, being sure to scrape the bottom and sides of the pan for any gelatin powder that is sticking to the pan.
5. Once the gelatin mixture is completely dissolved, combine it with the remaining water kefir and blended berry-kefir liquid. Pour this liquid mixture over the berries, move them around to evenly distribute, then place immediately in the refrigerator to chill for at least 4 to 8 hours.

Serve cold with whipped cream, whipped coconut cream, or on its own.

Grape Water Kefir Gelatin Dessert with Plums

While water kefir makes a delicious probiotic beverage, it also makes a great base for gelatin dessert. Gelatin is actually considered a health food in many circles. The probiotic power and delicious flavor of water kefir mixed with fruit gives you a gelatin dessert you can happily serve your whole family.

Ingredients

- 3 cups water kefir
- 1 cup grape juice
- 5 tablespoons gelatin powder
- 2 medium plums, sliced thinly

Instructions

1. Combine water kefir and grape juice. Pour half of this mixture into a small sauce pan. Sprinkle the gelatin powder over the top and put over a very low burner. Just barely warm the mixture in order to dissolve the gelatin powder. Do not get this mixture very warm or hot in any way as that will destroy the beneficial probiotics and enzymes of the water kefir.

2. Meanwhile, slice the plums and place in the bottom of a large glass bowl or baking dish.
3. Once the gelatin begins to dissolve take it off the burner and whisk well, being sure to scrape the bottom and sides of the pan for any gelatin powder that is sticking to the pan.
4. Once the gelatin is completely dissolved, combine it with the remaining kefir-juice liquid. Pour this mixture over the sliced plums, move them around to evenly distribute, then place immediately in the refrigerator to chill for at least 4 to 8 hours.

Serve cold with whipped cream, whipped coconut cream, or on its own.

Sauces & Condiments

Quick Thai Peanut Sauce

Ingredients

- 1-1/2 cups creamy peanut butter
- 1/2 cup coconut milk
- 3 tablespoons water
- 3 tablespoons lime-flavored water kefir
- 3 tablespoons soy sauce (or Coconut Aminos)
- 1 tablespoon fish sauce
- 1 tablespoon tabasco
- 1 tablespoon fresh ginger root, minced
- 3 fresh garlic cloves, minced

Place all ingredients in a blender or food processor and blend until creamy. Serve over rice noodles and chicken for an instant Thai treat.

Naturally Fermented Salsa

Ingredients

- 1 medium onion, diced
- 2 large tomatoes, diced
- 1 medium green pepper, diced
- 1 or 2 jalapeños, diced
- Clove of garlic, minced
- Handful of fresh cilantro
- Lemon and lime juice to taste
- *One* of the following:
    - 2 teaspoons salt
    - 1 to 2 teaspoons salt and 1/4 cup whey
    - 1 to 2 teaspoons salt and 1/4 cup water kefir

Instructions

1. Mix all the ingredients together including the salt or whey.
2. Place the salsa in a fermentation container pressing down to release some liquid. Ideally the vegetables should be submerged under the liquid. (Add a bit of extra water if needed.)

3. Ferment for 2+ days at room temperature.

Once the fermentation period is complete, the salsa can be removed to a storage container if desired. Store salsa in the refrigerator or root cellar.

Makes approximately 1 quart.

Water Kefir Honey Mustard Dressing

Thick, tangy, sweet, and pungent is everything you want in honey mustard dressing. It makes salads pop and brightens a vegetable crudité platter.

This version uses water kefir, a probiotic-rich lacto-fermented beverage, which adds a touch of sweet, a hint of tang, and a bunch of probiotics. Use lacto-fermented mustard, raw honey, and raw apple cider vinegar for an enzyme-rich dressing.

Ingredients

- 1/4 cup honey, warmed to a pourable consistency if necessary
- 2 tablespoons water kefir (still slightly sweet)
- 3 tablespoons Dijon mustard (or lacto-fermented mustard)
- 2 tablespoons apple cider vinegar
- Pinch of salt

Instructions

Combine all ingredients in a pint jar and shake well. Taste and add salt as needed.

Serve right away, or allow to sit at room temperature for up to two days or in the refrigerator for up to a week.

Water Kefir Fermented Tomato Ketchup

This fermented tomato ketchup can be made from home-cooked tomato paste fresh from the garden. Just cook down your homegrown tomatoes until they form a paste, allow to cool, and add the rest of the ingredients.

If water kefir is not available to you, you can also use whey as the starter culture for this recipe.

Ingredients

- 1-3/4 cups tomato paste
- 1/4 cup raw honey
- 1-1/2 teaspoon sea salt
- 2 tablespoons apple cider vinegar
- 1/4 cups water kefir
- 1/4 teaspoon cinnamon
- 1/8 teaspoon cayenne
- 1/8 teaspoon cloves

Instructions

1. Whisk all ingredients together in a bowl and transfer to a fermentation jar or airlock system. Tighten lid and allow to culture at room temperature for 3 to 5 days, depending on the temperature.
2. Check on the ketchup after two days for signs of being done. If it smells fermented and tastes tangy, then it is done. If your kitchen is on the cool side, then leave it for a couple more days.

This ketchup keeps well in the refrigerator. To keep oxygen out and allow for longer-lasting ketchup, pour a layer of olive oil over the top and store as usual.