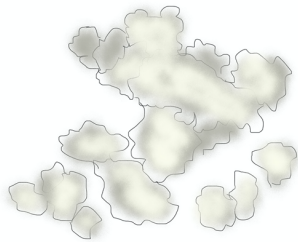


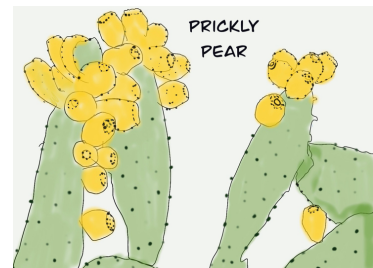
How to Make and Manage your own Water Kefir

By Caroline Gilmartin PhD

Before we explain how to get set up, why not take a moment to have a closer look at your grains, which aren't actually grains at all, but millions of microbes living together in blissful harmony, wrapped up in a dextran polysaccharide coating. They are descendants of original grains that were discovered (possibly on Opuntia or prickly pear cactus leaves) hundreds of years ago

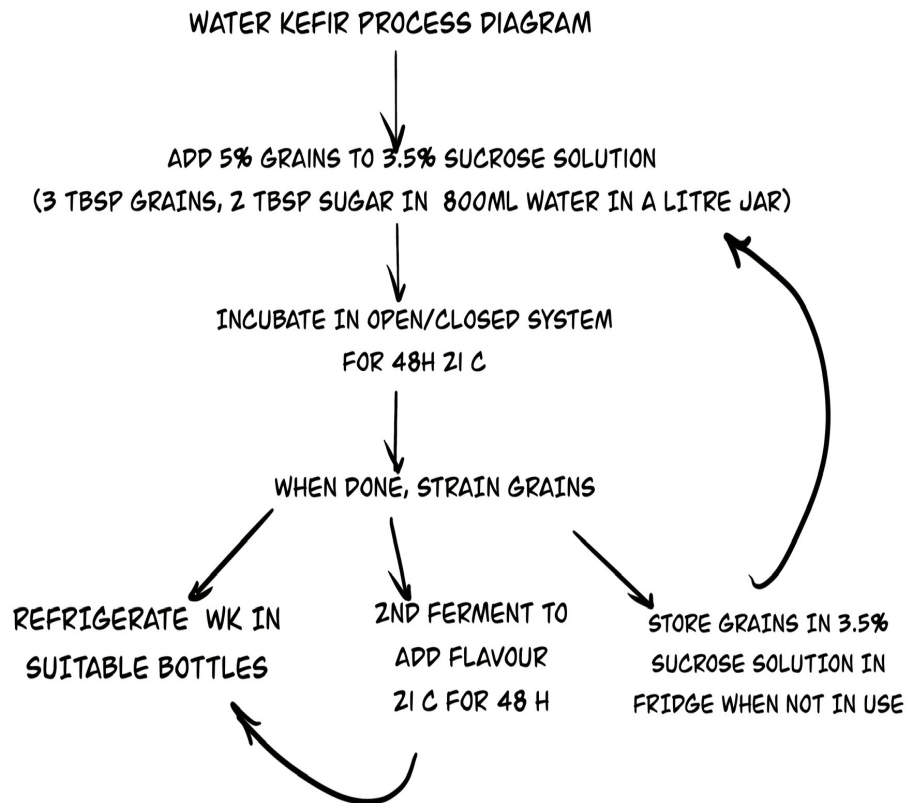


and have never been artificially recreated in a lab. Many of the microbes are thought to have probiotic properties (beneficial in terms of health); there are a mixture of yeasts, lactic acid bacteria and acetic acid bacteria.



When we make water kefir, we provide sugar as an energy source for the microbes so that they can grow and multiply. In the process they will make carbon dioxide, a tiny amount of alcohol, lactic and acetic acids. You will end up with a fizzy,

low-sugar drink full of probiotics that is a fabulous base for flavouring or you can drink it just as it is.



Instructions: How to make water kefir

These instructions are for a **1 litre jar** of water kefir: you can scale up as required; just make more 3.5% sugar solution (that's 35g sugar per litre, or 3.5g per 100 mls water)

You will need:

- Sachet of water kefir grains (2-3 tbsp)
- 35g (organic) sugar per litre of water
- Tap water
- A 1-2 litre jar (see below)

Choosing a fermentation vessel:



Water kefir fermentation makes a lot of CO₂, which potentially could lead to an explosive situation. You can use a wide-mouthed kilner jar (in the picture on the left), which has a big rubber gasket that can let some of the CO₂ escape. Still some people prefer to use an open system (see picture below, on the right). This will be less fizzy, but you can “second ferment” to build carbonation later if you like. You can also re-use food grade plastic bottles (these go hard when the carbonation has built up so are a good safe option) or a ceramic crock. Don’t use metal containers because water kefir is slightly acidic and can react with the metal.

Method

Ensure your equipment, hands and work surface are clean and free from possible contamination by raw animal, pet or grubby-vegetable matter.

1. Fill the jar with approximately 800 ml cold tap water (measure the first time you do this, then mark on the jar for next time: makes it easier!).
2. To make a 3.5% sugar solution, add approx. 28g sugar (again, weigh this out the first time into a cup measure, then you can approximate in the future).
3. Stir to completely dissolve the sugar
4. Add the grains
5. Arrange lid (see vessel choice below – I use a kilner jar with a rubber gasket).
6. Leave your ferment on the worktop for 48 hours (the grains may need little longer after transit). If you move

the jar or bottle slightly you should see bubbles of carbon dioxide (CO₂) forming after a few hours.

7. Taste a little. If it's too sweet, leave for another 24 hours. When it tastes to your liking with a good amount of fizz and just a hint of sweetness you are ready to strain it. You can leave your ferment for up to 60 hours to get rid of all of the sugar if you like, but after this, the grains will begin to get rather hungry.

To strain:

You will need:

- a sieve
- a jug
- a funnel if transferring to bottles.
- Brewers, wide necked or plastic bottles for storage

1. Set up your sieve over a jug
2. Strain your ferment through the sieve, keeping the grains.
3. At this stage, the water kefir is perfectly drinkable as it is, or can be used as a mixer. If you've used a closed system, it will already be fizzy. You can just bottle and store in the fridge. Or...
4. You can also "**second ferment**" water kefir to add more fizz and flavour, once you've strained and bottled it. Add some fruit juice, fruit, or cordial to the bottles and leave it at room temperature for 24 hours before refrigerating. The bacteria will continue to ferment the sugars in the juice/cordial/fruit and it will become fizzier. Or use a fruit tea bag to infuse it. You will need to strain out fresh fruit before serving as it goes quite soggy.

5. Start again! - transfer those kefir grains into fresh 3.5% sucrose solution and off you go. There's no need to wash them.



Some flavour combinations:

Elderflower cordial, Rhubarb and hibiscus, strawberry, Ginger Lemon and Turmeric (from a jar), Orange Blossom water, Rose water, Hibiscus, Cucumber and lime, Apple, Mango.

For a quick and easy flavouring solution, infuse with any fruit tea bag.

Q and As

What should water kefir taste and look like?

Water kefir and coconut water kefir are both slightly cloudy fizzy watery liquids. They shouldn't be at all thick or viscous. The taste is hard to describe – a bit soda-watery with a hint of bicarb, balanced by a touch of sweetness and a touch of whey comes to mind (though there is absolutely no animal product in this at all).

How full should the fermentation jar be?

Leave about 5 cm of head-room; the bacteria and yeasts in the kefir grains are happy with a little oxygen present.

Which kind of sugar is best?

Organic sugar is a good choice. Less refined than table sugar, it contains slightly more trace minerals that can ensure the happiness of your brew.

Depending upon your tap water, you might get away with just using plain white sugar, but if your brew loses its oomph, you can address this by adding half a dried fig (un-sulphured) or using a dash of coconut sugar or brown sugar.

Don't use brown sugar alone, as it can be a bit mineral-rich and can make the grains go mushy.

You can use honey, though pasteurised honey can give you better results as yeasts in raw honey can sometimes interfere with the kefir grain microbes.

I am feeling experimental?....

Just remember to hold back some of your original grains, then if it doesn't work out you can start again.

What about metal?

Most domestic grade stainless steel isn't made for fermenting, as the acid tends to corrode it, but short-term contact with a metal spoon and sieve for mere moments will cause no harm.

When will it be ready?

Likely 48 hours, but the sugar concentration, grain/sugar water ratio and the temperature can all make a difference. Idea temperature range is 21 – 28 °C. If it is cooler it will proceed more slowly,

How many grains to use?

Anything between 20g and 50g a litre will be fine. Either side of that, either reduce the quantity of sugar solution you are using or remove some.

What about the alcohol content?

There is some alcohol in water kefir because the yeasts produce alcohol and CO₂, though some is converted to acetic acid. Low sugar (3.5% suggested here), can limit the alcohol content to around 0.5-0.75%, rather less than you might find in over-ripe fruit. It is usually judged safe to give to children, though perhaps not a whole pint.

The grains are growing?

Especially in the summer, the grains increase at an alarming rate! Remove when you notice that they are taking over, and either, share with a friend, experiment with or compost. Or mix into smoothies – they can be blended in so no one would know, or give to your pets.

Storing water kefir

Properly designed brewer's bottles are suitable for storing water kefir, though do be wary; they must be in very good condition with no cracks or blemishes. Also if you are adding fruit, especially mango, pineapple or passion fruit, these make an awful lot of CO₂. They will calm down a bit once refrigerated, but if you are in any doubt, store them somewhere away from people and consider re-using plastic bottles to store your water kefir.

Contamination Problems

These are rare with water kefir, especially if culturing in a low oxygen environment where it will be hard for mould to grow. In the unlikely event that there is something fuzzy growing on the surface, throw it away and start again from your frozen stores.

Want to take a break?

Make up your water kefir in the jar with sugar solution as usual and then place it in the fridge for up to a month. It will slowly make water kefir during this time. Freezing can be tricky: sometimes they survive, sometimes not.

Can Everyone have Water Kefir?

As there are no animals involved, water kefir is suitable for vegans and vegetarians. It will probably contain some sugar (unless it has been fermented for over 48 hours whereupon most will have been metabolised) which diabetics should be aware of. It's possible to quantify how much using a hydrometer (easily available online). Water kefir does contain traces of alcohol. If you are histamine intolerant it could contain some. If you are immuno-compromised, or have an underlying health condition, check with your health professional. If you have IBS or IBD it could make you better or worse, so try a teaspoonful and built up from there.

Is it as good for you as milk kefir?

Water kefir is a source of probiotic bacteria. does not confer as many health benefits as milk kefir because it lacks the by-products from milk fermentation, especially the proteins. Still, definitely worth drinking in preference to usual carbonated drinks, with less sugar and a healthy dose of probiotic bacteria.

How much to have?

If you are new to fermented drinks, do start with just a few sips daily at first. Occasionally gurgling guts can result from too much too quickly, as there are lots of new microbes being

introduced to your guts. Do remember that unless you've completely fermented it away, there will be some sugar present.

Troubleshooting

Trouble? We hope there won't be any trouble! But if your water kefir grains have lost their va-va-voom, here are a few things you can try.

1. Add ½ teaspoon of coconut sugar, or muscovado sugar to the normal sugar.
2. Try adding an unsulphured apricot or fig
3. Try reducing the volume of sugar water you are using to the ratio of grains.
4. Get in touch with me by email at info@everygoodthing.co.uk or join Every Good Thing Fermenter's Club on Facebook for some advice.

NB

The microbes in these kefir grains are unknown. They have, however, been tested to ensure that they do not contain any known food pathogens. We have no knowledge of your state of health or your microbiota. Side effects are rare – a mild upset stomach could result, but the microbes within are not likely to permanently take up residence in your gut and will pass through. If you have any concerns, please consult a registered health professional.