

"NUTRITION IS DETERMINED BY WHAT WE CONSUME AND ABSORB,  
SO A HEALTHIER GUT MEANS A HEALTHIER PERSON."



Fennel kraut



Gillian



Vitality kraut



Fermented fruits



Fermenting ingredients



Flavoured kombucha



EAT

# FERMENTING FOR HEALTH

Words by Gillian Kozicki. Photos by Cultured Artisan

When I first heard about permaculture I was drawn to how it provides tools for living in sync with the planet, as a designed approach with ethics and principles. What I wasn't prepared for was how it could be applied to so many aspects of life. So, when I was introduced to lacto-fermentation it was no surprise that it did the same thing, but on a microbial level: we have a gut food web similar to the soil food web, which can be nourished, maintained or killed by the choices we make.

Consuming fermented foods and drinks promotes diversity of gut microbes, builds resilience in our immune function and has other benefits. Fermenting uses microbes in, on and around us to create foods that benefit our gut and bodies: microbes consume sugars and create enzymes and vitamins, and perform other digestive functions.

During fermentation beneficial microbes work together, sometimes as a colony referred to as a culture or a 'symbiotic colony of bacteria and yeasts' (SCOBY). We can manipulate the fermenting environment to favour the desired outcome, for example to preserve food.

Humans have 100 trillion good bacteria in and on our bodies, most in our guts. We are a microbial host, where the microbial DNA outnumbers cellular DNA by 10:1. What we consume matters.

## BENEFITS FROM CONSUMING FERMENTED FOODS

As Hippocrates stated over 2000 years ago, 'all disease begins in the gut'. Nutrition is determined by what we consume and

absorb, so a healthier gut means a healthier person. Stress and a toxic chemical overload in modern lifestyles can reduce the diversity of beneficial bacteria in the gut, and result in an imbalance that leads to poor gut function.

Fermented foods and drinks are full of beneficial microbes that help with digestion, cleansing and the absorption of nutrients in foods. They inoculate the digestive tract with beneficial microbes that crowd out available space for pathogenic bacteria which cause many modern chronic health issues. Researchers also believe that consuming fermented foods and drinks can improve mental health through brain function linked to gut health.

Health benefits of consuming fermented foods include:

- diversity of beneficial bacteria
- strengthened immune system
- assisted digestion
- improved mental health and moods
- vitamin synthesis
- controlled sugar cravings, and assisted weight loss
- increased energy
- clear skin
- fewer food allergies, inflammatory responses and internal fungal issues.

## HOW TO FERMENT

The key to fermenting is to create an environment for beneficial microbes to thrive, while not favouring those that putrefy. For example, some need air (aerobic) and others don't (anaerobic). I've suggested some recipes.

## HOW TO INCORPORATE FERMENTING INTO YOUR LIFE

Start small, diversify the ferment types or timing, and accept the feedback from

your body. More does not mean better – a single teaspoon may contain millions of live microbes. Sauerkraut is a great ferment to start with, as are kombucha tea and kefir.

When you introduce unfamiliar fermented food or drink to your diet you may experience an unwelcome reaction because you're introducing a huge number and diversity of gut bugs. This may affect your digestion and/or cause inflammatory responses, and could result in toxins being released if pathogenic bacteria die off in large numbers. If you have serious health issues these may need to be resolved before you start consuming ferments.

Fermented tonics are made easily at home from simple ingredients and are great pick-me-ups as they cleanse, re-energise, rehydrate and build immunity in the body.

## GROWING CULTURE - BUILDING COMMUNITY

Fermenting not only works with microbe cultures to transform foods and drinks; by consuming them, fermented products supply the same diversity to gut flora. A beautiful additional benefit is that fermenting has a way of building human communities and culture.

SCOBYs multiply with every batch, so they could continue to ferment larger batches, but there is a limit to how much one person can consume. It makes sense to ferment what you can consume, and share excess cultures so that others can enjoy them; you then also have a backup if your SCOBY fails and dies.

Fermenting vegetables in season, when they're abundant and cheap, avoids waste and makes it easier to share the produce – preserving makes things last. This can bring people together, and build resilience and food security in communities. The current fermenting fervour is also reviving food traditions and connections to cultural heritage.



The versatility and practicality of fermenting makes sense. It provides hands-on, simple, effective and delightfully creative ways to preserve harvests.

*About the author. While not a qualified practitioner, Gillian is passionate about the relationship between her gut and her overall health and wellbeing. She includes a diverse range of fermented foods and drinks in her diet. Gillian has done two PDCs and many other permaculture and fermenting courses, and now teaches others about fermenting and health as the founder of Cultured Artisans.*

For more information see [www.culturedartisans.com.au](http://www.culturedartisans.com.au)

## REFERENCES

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## RECIPES

### SAUERKRAUT

For the cabbage to ferment rather than rot, air needs to be excluded under brine. Microbes are already present on the cabbage. The brine is created by massaging, pounding or letting the salt extract the juice. Other vegetables, fruits, herbs and spices can be added for flavour and colour.

#### Ingredients/equipment

- ½ a green cabbage
- 1 fennel bulb
- 1 brown onion
- 2 small garlic cloves
- 1 teaspoon of dill seeds or fresh dill
- 1 teaspoon of yellow mustard seeds
- 4 bay leaves
- 2 teaspoons of salt (or use organic smokey salt for a 'smoked' version)
- 1 carrot
- 1 litre jar, with lid
- 1 litre of 1.5% brine [15 grams of salt in 1 litre of filtered water], if necessary.

#### Method

1. Remove and save the outer leaves, then remove the core and slice the cabbage.
2. Wash and clean the fennel and onion, then slice them.
3. Peel and chop the garlic.
4. Combine ingredients – except the carrot – in a large mixing bowl.
5. Salt to taste.
6. Massage together until you can wring/squeeze a handful, and it drips like a sponge.
7. Pack the mix firmly into the jar, to remove air pockets and raise the juices. Fill up to the shoulder, leaving two to three centimetres for the mix to rise during fermentation.
8. Place a clean folded cabbage leaf and a piece of carrot on top as a plug to hold the mixture under the juices/brine. If there is insufficient juice to cover the mixture, add additional brine.
9. Seal the jar and label it, including the date.
10. Place the jar out of direct light for one to two weeks before transferring it to the fridge where it will continue to ferment at a slower rate.

## MASTER TONIC

Also known as fire cider or plague vinegar. Each of the ingredients is powerful on its own, but together they support the immune system and fight the onset of seasonal colds and flu. While I've included precise amounts here, no two batches of mine are ever the same.

#### Ingredients/equipment (makes about one litre)

200–300 grams of each main ingredient:

- white or other hot onion
- horseradish root/wasabi/radish
- ginger
- hot chillies
- garlic
- 1–2 pieces turmeric root
- 10 cloves
- 2 cinnamon sticks
- 2 teaspoons peppercorns
- 1 piece lemongrass
- 1 dessertspoon raw unfiltered honey
- a clean glass jar of an appropriate size, with lid.

Optional ingredients to taste or availability:

- parsley
- coriander
- tamarind root
- vitamin C powder or dried orange peel ground into powder
- echinacea
- raw apple cider vinegar (live, unfiltered, unbleached, non-distilled)

#### Method

Start on a new moon and strain on a full moon – about fourteen days.

1. Chop or coarsely grate all the ingredients, and mix together using rubber gloves.
2. Fill the jar to three-quarters full, then top up with the vinegar to two to four centimetres below the rim, depending on the size of your batch.
3. Close the lid firmly and shake the jar to get rid of air bubbles, then top up if required with more vinegar and re-close the lid firmly.
4. Ferment in a cool, dark place.
5. Stir once a day with a clean utensil, or give the bottle a shake when you pass.

6. Strain the mix after at least fourteen days (you can leave it for up to twenty-eight days). Use a fine coffee filter, or fine fabric to remove the sediment. After straining, it's normal for sediment to continue to sink to the bottom.
7. Bottle, label/date and store in a dark place.

#### Notes

Take once or twice daily as a preventative, ten to thirty millilitres at a time. Sip it straight or dilute it by mixing with raw honey and warm water. You can also mix it with things like bone broth, or even kombucha. Gargle it before swallowing, if you are able.

Take fifteen to thirty millilitres every three to four hours if you are ill.

If you make multiple batches at once, only strain each as required; leave the others to continue to infuse.

The strained vegetable and herb solids can be pureed and: mixed with lemon and honey for a salad dressing or marinade; frozen in small portions to add to broths or soups, stir-fries and casseroles.

## KOMBUCHA

Kombucha is a fermented, sweetened tea that originated in China but is now readily available and easy to make at home. The culture (its SCOBY or 'mother') ferments the tea to an enjoyable, slightly tart and lightly effervescent drink that is full of antioxidants. It is a flavoursome liver detox, and aids digestion. If you don't have a friend with a SCOBY, try online share groups or commercial retailers.

#### Ingredients/equipment

- 1 litre of chemical-/chlorine-free water (don't use tap or chlorinated water unless it has been boiled for 10–15 minutes, and cooled to room temperature)
- 2 tea bags or 1 dessertspoon of organic leaf tea in a cloth bag (e.g. black tea, green tea, rooibos or oolong)
- cup white or raw sugar
- 100 millilitres starter liquid (fermented kombucha from a previous batch)
- kombucha SCOBY
- a clean glass jar or vessel to brew in (1:1 diameter to height), and a clean glass bottle or flip-top bottle.

#### Method

1. Bring the water to the boil and turn off heat.

2. Add the tea and sugar and stir to dissolve.
3. Remove the tea bag(s) after fifteen minutes to one hour.
4. Cool to body temperature.
5. In the brew jar, add the prepared sweetened tea and the reserved starter liquid, and place the SCOBY on top.
6. Cover the vessel with a loose cloth, such as muslin or cheesecloth, and secure that with an elastic band to exclude dust or insects.
7. Wrap a clean tea towel, apron or other cloth around the vessel to block the light.
8. Brew for seven to twenty-one days, depending on the flavour you like and the ambient air temperature.
9. When the brew is ready, remove the SCOBY and some of the fermented kombucha as a new starter liquid.
10. Pour into clean flip-top jar and store in the fridge, or second ferment then store.

## Second fermenting

Once fermented to taste, kombucha can be decanted into flip-top bottles and second fermented to increase carbonation, sweeten further, add flavour complexity and colour. Make sure the bottles have enough room at the top to release carbonation before consuming.

Fill the jar to three-quarters of your finished amount and add a few pieces of organic fresh or dried fruit, some fruit juice or herbs and spices. You can even add vegetables such as cucumber.

Leave this to ferment for another one or two days before storing in the fridge and/or consuming.

Take care in filling and adding additional sugar sources until you are confident with releasing (burping) the kombucha before drinking.

Some examples to get you started: apple juice, cinnamon and cloves; strawberry and vanilla bean; cucumber and basil.

Warnings: Open the bottle carefully, as carbonation may build up. This brew is not recommended for pregnant women or young children.

