

Probiotic **Food** *Craft*



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CHAPTER 1

Crafting with Probiotics



3 steps to creating perfect raw vegan yogurts and cheeses

Step 1: Make your Friends at Home



The bacteria in our probiotic foods need the right environment to survive and the **ideal** environment to thrive and reproduce. You can create this environment at home by avoiding the temperature ranges that harm the bacteria and providing the climate those beneficial bacteria prefer.

The bacteria that we will be using here are thermophilic. This means that they thrive in warm temperatures, equal to and around our body temperatures. There are other ways to make raw vegan cheeses using mesophilic (room temperature or slightly above/below) cultures as well as enzymes and mold cultures. Some examples of mesophilic cultures are the bacteria and yeasts in kombucha, sauerkraut and miso. Cheeses made with mesophilic cultures do have health benefits however for the purposes of this book we will focus on the probiotic cultures that are the most common in home based vegan cheese and yogurt making.

Thermophilic cultures will survive if not heated beyond 140 F, 60 C although they will start to die off just under this point. They will grow and reproduce if they are kept between 108 and 112 F, 42 to 44 C. This is a rather narrow range. This tip alone is enough to totally revolutionize your cheese and yogurt making. If you are using probiotics to culture your vegan cheeses you may be leaving them in a room temperature environment, as many culinary schools teach. This temperature will not kill them, in fact they can be frozen and revived, but they will not grow and multiply like they *could* in a warmer environment. Incubating food at this lower temperature leaves your creation open to invasion by other bacteria which could be pathogenic or simply not as beneficial to your health. If you are using probiotics for culturing they are an investment and the good ones are not cheap! Give them the best chance possible to thrive through providing them the right temperature. You may be using a multi-strain probiotic. In that case some of the strains will reproduce better at lower temperatures than others which means that the balance of the probiotics in your yogurt or cheese will not be what you wanted or paid for.



Some methods for Creating the right temperature environment for your probiotic bacteria

Using a heated blanket: Keep your yogurt or nut cheese in a glass jar or container and wrap it in an electric blanket on low. I know low seems low but they all heat up to be quite warm in the end and having the yogurt too hot is really not helpful either. I do not often use this method but it does keep the temperature well overnight.

Sunny windowsill: We don't get enough sun where I live for this method AND if you have good sunlight the UV light can harm the bacteria so if you do have sun and can keep the yogurt/cheese covered you will do well. Try covering the yogurt/cheese with a dark coloured blanket or cloth and check on the temperature periodically. I like this method because it does not use electricity and will not expose the cultures to electromagnetic frequencies (EMFs from the electric blanket). Make sure your cultures do not get too hot.

Oven with the light on: This is super easy and gives you something to do with your oven if you find yourself storing dishes in it like I do! The light provides the heat. Be forewarned however I have had this method overheat in the past.

Heating pad for fermentation: Better than the blanket because it will likely not get too hot because many of these have a thermostat.



Make Your Friends At Home

Whatever method of incubation you choose it can be very handy to get yourself an infrared temperature gun. At time of writing there are several under twenty dollars on Amazon. As a bonus you get to pretend you are on Star Trek using a “microspanner”. This is a fantastic investment if you are serious about rebuilding your flora and creating a variety of probiotic foods.

On top of the dehydrator or covered, inside of it: My favourite method. It does make noise but the thermostat on the dehydrator is a real benefit here. This allows you to incubate overnight and also to prepare other foods such as crackers to accompany your nut cheese at the same time, making more use of an appliance you may already be using.

Inside a cooler with a jar of hot water: This seems a little caveman/woman but works brilliantly particularly if the cooler is sealed well. My other favourite method. I love this because it is quiet, uses no electricity and no EMFs. Try adding a grounding mat to the inside of an old cooler. Isn't that awesome!?

Using an up-cycled or handcrafted incubating machine: You can use styrofoam sheeting or old fridges or freezers, a light bulb and a thermostat to create a temperature controlled environment. This is something that I go more deeply into in my longer programs and is really fun!

Step 2: Nourish Your Community



Bacteria need three things other than the right temperature to thrive and grow. Any bacteria need water activity, sugar and protein.

Water activity is basically the amount of water in your product or recipe. Water activity is the reason that there are different rules about which foods need to be in the fridge to be safe. For example a muffin has low water activity, can be kept out of the fridge and purchased off the shelf. Juice and soup have high water activity and need to be refrigerated before sale or consumption. This is mostly intuitive but it does bear some thought because many of the nut cheeses that we make have relatively low water activity and therefore can be less than ideal environments to develop strongly fermented flavors. We are trying to emulate foods that are typically aged over months in a cheese cave in just a few hours using completely different cultures. If we are not getting the results that we desire it may be worth asking “what is the water activity of my recipe?”

Sugar is... sugar! Specifically these thermophilic bacteria thrive on glucose. They can also use other forms of sugar but even lactose is taken up more slowly than glucose by the probiotic bacteria. Milk naturally contains glucose and lactose which is broken down by the bacteria into galactose. These are carbohydrates. The carbohydrate content in 1 cup of milk is 12 grams. The carbohydrate content in 1/4 cup of almonds used to make 1 cup of almond milk is 7 grams. You can choose to augment this with fruit juice or concentrate, a bit of evaporated cane sugar or another source of glucose that you like to use. Agave is fructose and in my opinion is not a healthy food and the bacteria don't like it either so I do not use it. My goal in making probiotic foods is to have something that tastes great with as many beneficial bacteria as possible. Avoid using sweeteners such as agave, honey and xylitol which have antibacterial properties, especially during fermentation.



Choose your Carbs

We have found 1 teaspoon of sugar per litre of yogurt to be enough in our commercial non-dairy yogurt factory. This is mostly eaten by the bacteria along with the carbohydrates in the other ingredients.

Yacon syrup is becoming known as an excellent prebiotic (a prebiotic is a food for bacteria). This is because 40-50 percent of the sugars in the yacon are FOS's, fructo-oligosaccharides. The bacteria are able to break this down into glucose and then eat the glucose but WE are not able to do that. This is why yacon syrup is a good prebiotic, because these fructo-oligosaccharides are intact when they reach the lower digestive tract and are ready to be broken down by the bacteria. Adding this to your yogurt will provide food that will survive through your digestive system and help the bacteria to thrive once they get to their destination. You can also look at it as an expensive way to make glucose. Both perspectives are true. I prefer to use the yacon after incubation in place of other sweeteners so there is plenty left for the bacteria to use and keep healthy on the shelf and in my body. I prefer to

use more inexpensive and accessible forms of sugar for the incubation while sticking to my goals and budget. I will never judge you for the sugar that you use in your yogurt because it is for the bacteria, not me, to eat. Make sure not to add too much sugar because compared to milk your almond milk for example is already more than half sweet enough. This way you know the sugars will be consumed more completely by the bacteria and you will end up with a lower glycemic product that you can sweeten after fermentation however you like.

Protein. This is where it gets interesting. We have chosen not to use milk in our yogurt. It is however important to understand the differences between milk proteins and nut and seed proteins so that we can achieve a similar texture and end product, if only so that our fami-



Probiotic bacteria can thrive in nut and seed milks

Commercial yogurts contain thickening agents

lies and friends will be impressed by our mad culinary skills and stop calling us hippies.

Milk from cows contains two types of proteins, whey and casein. It is the casein that thickens the yogurt. It forms a sort of grid when it is in an acidic environment. The whey does not contribute to this but will add to the thickness if it has been denatured by heating. We know that proteins are really just collections of amino acids and heated proteins are coagulated strands of amino acids difficult to break down. Boiled dairy milk thickens better than raw milk in yogurt because of the coagulated proteins. Sound yummy?

Our plant based yogurts, particularly if we are keeping it simple and not playing protein-powder alchemy, are simply not going to behave

the same way as cooked casein does. Our yogurts will not thicken like a dairy yogurt does although they may clump a bit. We can work to include the amino acids to help with thickening. This is subject matter for a more in-depth course.

Most yogurts that are sold in stores contain thickening agents, dairy and non-dairy alike. Dairy yogurts also often contain powdered milk which adds thickness by increasing the protein and sugar content of the yogurt but unfortunately contains many undesirable constituents. Probiotic bacteria may not thicken nut, vegetable and seed milks, yogurts and cheeses but they can definitely thrive and reproduce in them.

Step 3: Make the Right Friends



Making a yogurt or nut cheese that is both balanced in flavour and containing beneficial probiotics requires using the right bacteria in the first place. The dairy yogurt making tradition teaches us to use the bacteria *Streptococcus Thermophilus* to culture yogurts. In fact yogurt cannot be called yogurt legally unless it contains this particular strain of bacteria. Lot of arbitrary rules with those folks... This bacteria along with several other strains are excellent at starting, culturing and acidifying yogurts while creating the tartness of flavour that we expect from a yogurt or a cheese. We have been taught by raw food culinary schools and vegan cheesemaking pioneers to use probiotics to culture our yogurts. It makes sense, you can buy them dairy-free and they have health benefits. The problem is that these bacteria have not been cultured to develop yogurt flavours and build colonies in this way. They *can* thrive in an environment that is acidic. It is possible to buy yogurt starters including the strain *Streptococcus Thermophilus* cultured in non-dairy sources. Why not take the best of both worlds?

We can use proven starters to develop the flavour and acidity in our fermented foods along with proven probiotics to provide the health properties that we desire. Let us create an awesome environment for those probiotics to thrive and grow by using the starters to, well, get them started and create the appropriate environment for our probiotics to live in. By the time we get around to eating our creations we are getting billions more of the probiotics than we used in making them.

CHAPTER 2

Probiotic Recipes



Yogurt Starter

Cashew Cheese

Coconut Yogurt

Big Blue Salad

Raspberry Lime Parfait

Crafting a Starter



Starter ingredients:

1 L almond milk (or cashew, hemp, walnut milk)

Optional 2 T Warrior blend plain protein powder or 3/4 C hemp seeds

1/2 t yogurt starter culture

1/2 t your choice of probiotic cultures

2 T dehydrated cane or maple sugar or 3 T date sugar or yacon syrup

Starter instructions:

Blend protein powder or hemp seeds into your almond milk.

Add your cultures toward the end of the blending process as they can be damaged by the blades of the high speed blender.

Pour the starter into a clean glass container.

Keep your starter warm, ideally between 42-44 degrees celcius for 8-12 hours or until it has a strong yogurty taste. The starter should be strong and healthy as you will use it to extend the life of your probiotics and your cultures. You will use your starter for cheeses and yogurts.

Notes:

Keep your starter away from metal objects other than stainless steel

Keep your starter away from direct sunlight and antibacterial soap residues

Keep your workspace as clean and sanitary as possible to avoid cross-contamination

Adding hemp to the starter will help the health of the bacteria but will always be a little grainy and definitely tastes hempy. The protein powder IS more processed but has more amino acids and is less grainy in the final product. Make the choice that is right for you.

The starter will work with just almond milk

Cashew Cheese



Ingredients:

3 C cashews

2/3 C water

2/3 C starter

1/4 C nutritional yeast (optional)

1 t Himalayan salt

Instructions:

Soak the cashews for up to 4 hours to make them more blendable

Using your high-speed blender mix together the cashews and water (you will definitely need your tamper to do this

Add starter and continue to blend and combine the mixture until smooth and thick

Scoop the mixture out of the blender into a nutmilk bag or cheesecloth lined collander

place the collander over a large bowl so that the liquids can drain from the cheese while it is fermenting

Keep the nutcheese warm, preferably between 42 and 44 C overnight or for 8-12 hours. This can be done with an oven light or on top of or inside the dehydrator

Taste the nut cheese and determine if it still needs more time (I often let mine ferment for 24 hrs)

To this mixture you will add 1/4 C nutritional yeast and salt to taste (1 t or more). Keep in mind there is a heap of salt used in traditional dairy cheese making and that is an important part of the cheese flavour. It must taste good to you.

stir in fresh herbs, fresh black pepper or even chopped dried fruits and nuts to serve.

Coconut Yogurt



Ingredients:

4 cups young coconut meat

1/2 cup starter

1/2 cup water

2 T coconut butter

1 T dehydrated cane or maple sugar OR 2
T yacon or date sugar/syrup

Instructions:

Blend young coconut meat until as smooth as possible without any added liquids

Add starter, chosen sugar and coconut butter and blend until smooth

You may need to adjust and add more water if you have very dense young coconut

Scoop into a clean glass container

Incubate the coconut yogurt in a warm place for 8-12 hours

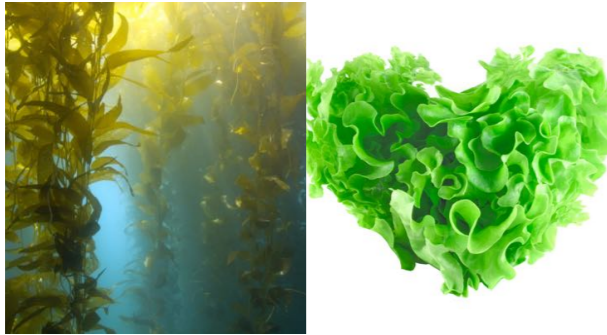
Notes:

I do not typically measure this. I use between one and two packages of the commercially available frozen young coconut with 1 C starter and 1 T some type of sugar

If you are scooping flesh from young coconuts (good for you!) this will be about 2-3 coconuts unless they are very young and without thick flesh

This may not be cheaper than commercial coconut yogurts (actually I still think it's cheaper) but it is way way better and without added sweeteners or thickeners

Big Blue Salad



Dressing Ingredients:

1/2 C macadamia nuts

1/4 C apple cider vinegar

2 green onions, chopped fine

2 T red onion, chopped fine

1 T fresh rosemary, chopped

1 clove garlic

1 t spirulina (optional but recommended)

Himalayan salt to taste

Black pepper to taste

Salad ingredients:

6-12 C romaine, chopped (about 1-2 heads)

1 C cashew cheese

Torn nori and/or dulse flakes

Instructions:

Blend macadamia nuts, apple cider vinegar, rosemary, garlic and spirulina until smooth

Add a pinch of Himalayan salt, taste and adjust as needed

Add green and red onions at the last minute so that they are incorporated but not completely blended with the rest of the ingredients, we want a bit of chunkiness and colour here

Fold cashew cheese into dressing by hand

Set aside leftover dressing in the fridge or freezer for another day

Serve the dressing on top of fresh romaine, garnish with torn nori and dulse flakes, (or try cayenne, olives, nutritional yeast, hemp seeds or green onions) and serve

Raspberry Lime Parfait



Ingredients:

1.5 C coconut yogurt

2 T lime juice (about 1 lime)

1 cup fresh raspberries

1/4 t vanilla powder

1/2 C walnuts, chopped

Fresh mint for garnish

Optional 2-5 drops food grade lime essential oil

Optional 2-4 drops vanilla stevia or sweetener of choice

Instructions:

Zest your lime and reserve the zest for garnish

Squeeze the lime into your 2 C yogurt and stir to combine. Add vanilla, essential oil and stevia or other sweeteners as desired

Layer walnuts, yogurt and finally berries in a fancy glass

Repeat the layering process in the same order until the glass is full

Top with fresh berries, chopped nuts and peppermint leaves to garnish if desired

Note:

lime essential oil is antibacterial but lime juice is not so keep that in mind when deciding whether to use the essential oil or not

chopped almonds are wonderful in this parfait in place of the walnuts

CHAPTER 3

Probiotic Foods for Health



How to use your new probiotic foods to rebuild and balance your body



Learn the myths, misconceptions and marketing around probiotics.

Learn how to make many more great raw vegan yogurts and cheeses customized just for you

Join me at

<http://www.stephjackson.com/classes/symbioticfriends.php> to be the first to know about upcoming webinars, teleseminars, summits and programs designed to help you achieve your ultimate health goals specifically through fermentation while creating amazing food. Find out which bacteria are probiotic. Find out what the dairy companies (and some non dairy companies) don't want you to know. Take your cheeses and yogurts to the next level and beyond.

<http://www.stephjackson.com/classes/symbioticfriends.php>



**Learn, experiment,
grow and do not be
afraid to try new
things, especially if
they haven't been
done before**

There is so much to learn and so far for this new and exciting tradition to develop as we are really at the forefront of some amazing changes in the way that we nourish and feed ourselves with raw vegan probiotic foods. We are at the turning point of a new culinary tradition. We are all experimenting and growing together. You. And me. I have so much to share with you and can't wait to join together to create change. Stay close and jump on my next webinar or telesummit, ask questions and challenge the status quo. Join me at <http://www.stephjackson.com/classes/symbioticfriends.php>



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- Find out the essential building blocks for the life and body you intend to create
- Discover the #1 thing stopping you from having the body and energy of your dreams
- Find out the three most powerful steps to move you toward the life and health you desire
- Know exactly what to do next to achieve your ultimate health goals
- Create your own roadmap to exceptional health

Thank You

Thank you for your time and attention to Probiotic Healing Foods.

You are already *The Change*.

Thank you for your dedication to the health of your body and the planet.

www.stephjackson.com





About Steph

Steph Jackson, Empowered Food Coach, teacher and writer guides discerning foodies as they achieve renewed vitality and health. Steph delivers practical powerful information with playfulness. Steph enjoys wildcrafting, fermenting, geeking out on biochemistry and pushing the boundaries. Steph engages compassionately and firmly, enabling you to take back your life, body and soul.