

LOST & FOUND: NUTRITION REBOOT



By Tina Cornely

A timely narrative about how a compromised gut is a springboard for illnesses.

Hippocrates – the father of medicine said...

Diseases begin in the gut!

For true healing and optimum health, we need to exercise.
We need to let medicine be our food and food our medicine.
The natural metabolic forces within us are our *true* healers.

In the mid-1800s during the beginning of the
Industrial Revolution, food processing plants began
to cut corners during fermentation and cultured food processing.
Cancer and diabetes were extremely rare during this time.
Disease rates have risen drastically since the Industrial Age,
in particular cancer, obesity, strokes, preeclampsia,
depression and suicide.

The human body consists of 57% bacteria.
90% of serotonin is manufactured by the gut bacteria.
From the highly processed foods that we eat, to the toiletries we
use and the medications we take,
we are essentially killing our gut microbiota
which controls our immune system, metabolism,
our moods and depression.

This book aims to help create a paradigm shift
from our current unhealthy habits.

If we want to have a future,
we need to look to the past and learn
from the wisdom and the mistakes
of our ancestors.

Author's Preface

Bacteria play critical roles in the stability of our global ecosystem.

Sadly, they are largely misunderstood.

The ecosystem, both on land, water, and the air,
depends heavily upon the activity of bacteria.

They are responsible for the recycling of nutrients
such as carbon, nitrogen and sulfur.

More importantly, it is the decomposition breakdown of these
organisms, and the release of nutrients back into the
environment that sustains our planet.

It is quintessentially the *yin & yang*.

Without bacteria there would be no carbon dioxide.

Without carbon dioxide there would be no photosynthesis
in plants, and there would be no food!

From the air we breathe, the water we drink and
the food we eat, it is all recycled thanks to bacteria.

In my world there is no good or bad bacteria.

There is the yin & yang bacteria.

By better understanding the key role bacteria play
in our lives, we can achieve the Tai Chi of the yin & yang.

In doing, so we can all contribute to bringing
equal balance back to our planet.

-Tina Cornely

Acknowledgements

This book is dedicated to my friends

Marty Taplin

Raul Valdes Fauli

Steven L. Cantor

Whom all died the same year, by their own hands and in the same manner.

I would also like to dedicate this book

to the loved ones they left behind,

who are carrying their torches:

Cricket, Martha, and Sharon.

And to anyone who lost a loved one

due to the detrimental combination of

a compromised gut, depression,

coupled with anti-depressant medication.

May their memories live on in our hearts.

For thousands of years, our resident microbes have coevolved and coexisted within our ancestors in a harmonious symbiotic relationship. We are NOT *two* distinct entities from our microbiome, because together we form a coherent *superorganism* and one cannot exist without the other.

Today we can learn a lot from the collective moral values and social habits of our ancestors. Take the ancient Greek civilization which is attributed with a large volume of discoveries in the areas of astronomy, geography, mathematics, literature and medicine.

Did you know the word diet comes from the Greek word *dieta*, which means “*the way of life*”? For the ancient Greeks good health encompassed nurturing the body, mind, heart and soul.

Essentially what it boils down to is good health starts with each morsel of nutritious food that we put into our mouth. And guess what?! The mouth is host to one of the most heavily colonized parts of our bodies. The oral microbiota and saliva that help digest our food contain vital enzymes and proteins that help maintain both our stomachal and oral microbiota.

After we chew and swallow our food, it then travels to the stomach where it gets further processed by bacteria located in our gut. Without the help of bacteria, we would not be able to digest grains! Bacteria also communicate what has been digested with the Olfr78 Receptor (located in the kidneys) which in turn helps regulate our blood pressure. Who knew the depth and multitude the roles bacteria play in our overall health and wellness?!

This important bacterium liaising role was discovered by a brilliant young woman whom I admire very much, Professor Jennifer Pluznick from John Hopkins Medicine.

So, let's reflect for a moment and imagine what would happen if our gut biome became compromised and ceased to communicate this vital information with the Olfr78 Receptor.

No. Blood. Pressure. Regulation.

A scary thought indeed!

Did you know the word mouth comes from the Greek word stoma? Which leads to our next *did you know* question... stomach means stomachos in ancient Greek and stomachos also means gut! Even the ancient Greeks understood the connection between the mouth and stomach microbiota!

Diet was and still is today, a key component for ensuring good gut health and in developing a strong disease fighting immune system.

The ancient Greeks also knew the important correlation between the gut and our emotional brain health. Indeed, the gut microbiota plays an important role in our emotional health, and our digestion plays a key role in our natural immunity defense to fight diseases. A healthy gut will have the ability to break down and neutralize toxins that may have been consumed inadvertently. Our gut microbes not only break down our food and help extract essential nutrients our body needs, they also play a key role in our health, development and wellness, including endurance, recovery and mental aptitude.

Did you know our gut microbiota contains tens of *trillions* of microorganisms, including 1000 different species of known bacteria with more than 3 million genes (150 times more than human genes)?! This flora (located in the mouth and internal organs) is an entire vast ecosystem of bacteria and yeast. Like all ecosystems, the delicate balance of our digestive system can be altered by various toxins including antibiotics, blood pressure medication, antidepressants, steroids, chemo, diabetes medication, ibuprofen, xanax, zantac and other drugs. Additional detrimental factors include chemicals like triclosan (used in personal care products like antibacterial soap and toothpaste) and chlorine and fluoride (found in the water we drink and bath in), MSG, food additives and unnatural preservatives, GMO's, and an overabundance of highly processed foods, or non-organic meat

and produce. Sounds like the diet of today's mainstream population, right?!

Did you know it is possible to eat a nutrient-rich diet and still be nutrient deficient due to poor digestive health? When the micro-organisms in our gut are out of balance they can interfere with the proper absorption of nutrients into our blood stream.

More reasons why gut health and nutrition need to become a more formal component of the patient recovery process in hospitals and clinics. This all-important patient ⇔ doctor conversation needs to start happening sooner versus later.

Clearly, it is important to take better care of our gut health to keep bacteria balanced and thriving.

Below are some additional ancient Greek teachings about how to take proper care of our gut and build a stronger, healthier immune system.

Cook and Eat Wholesome Nutritious Foods!

The ancient Hippocratic way of healing was by using food to nourish the mind, body and soul. It is important to eat an abundance of food that is good for our gut health and to keep to a minimum (or avoid altogether) foods that are not beneficial to our microbiome. Oftentimes, it is what you do NOT eat or the medicines you do NOT take that make the biggest difference in your over-all health.

When eating fruits and vegetables we should try to eat seasonal. These include fresh organic fruits and vegetables (especially greens and living grains such as sprouts). Try to incorporate natural supplements like spirulina, moringa, teas, herbs and spices. Drink filtered water or spring water (fluoride and chlorine free). Use olive oil, coconut oil, palm oil, avocado oil, sesame oil or kelp oil. Eat more organic raw foods and lightly steamed food (i.e. anything uncooked, raw, sprouted and organic), nuts and seeds, fermented foods and raw chocolate. Use natural sweeteners like raw honey, grape must and sugar cane or maple reduction. Prepare meals with legumes and grains such as couscous, kamut, buckwheat, pulses, brown rice, amaranth, and organic breads made from wild spelt or barley yeast.

Try to keep to a minimum or avoid the following foods and ingredients:

Genetically modified food (GMOs), conventional food that has been treated with chemicals, anything ultra-refined like white rice, white flour, white salt, white sugar, artificial sweeteners, sugary sodas, processed, canned foods that are NOT BPA free, unhealthy oils, margarine, lard, and foods that are deep fried. If you eat meat make sure it is organic or at the very least, grass fed.

Consume More Fermented Foods!

Hippocrates believed (and rightly so) most diseases began in the gut and called fermented foods “probiotic” which means *for life*.

In ancient times doctors used to prescribe sour milk, yogurt, apple cider vinegar and pickles for improved digestion. Ancient Greeks even used sauerkraut (organic salted, shredded, fermented cabbage) to treat and prevent intestinal infections.

Ever wonder why pregnant women crave ice cream and pickles? Before the pre-industrial age, ice cream and pickles were organically cultured and fermented!

To name a few, fermented foods include organic yogurt, kefir, sauerkraut, miso, kimchi, kombucha, pickles, incurtidos, giardiniera and sour dough bread made from wild yeast.

Probiotic foods help detox the gut and fortify our immune system!

“Day by day, what you choose, what you think, say and do is who YOU become” - Heraclitus

Did you know thoughts have been scientifically proven to contain energy?

Those who approached the Oracle at Delphi were encouraged to have “*good thoughts*”. An excess of negative thoughts can cause an imbalance in the body and become a springboard for illnesses.

Ultimately, we are responsible for our overall health and well-being, so it’s important to substitute fear with acceptance, process your feelings and do NOT push them under the carpet. Above all, do NOT stress.

To assist with emotional health balance, the ancient Greeks incorporated many forms of therapy- meditation therapy, prayer therapy, food therapy, music therapy, light therapy (ala James Turrell), chakra therapy, massage therapy, sun therapy, sauna therapy and exercise therapy. Sounds like the perfect spa retreat, correct?! Sign me up please!

Aristotle believed the power of music could heal the sick and many doctors in ancient times used vibration to aid in digestion, treat mental imbalance, and induce sleep. Aristotle, in his book

De Anima, wrote that flute music could purify the soul. The Greek meaning of the word Anima is a current of air, wind, breath, the soul...

Coincidentally anyone who is struggling with meditation should try listening to the Scottish musical group Anima and their song Temple of Heart. A meditative zen fest is assured!

Trust your Gut and Listen to Your Inner Voice!

"Know thyself" - Oracle of Delphi

YOU know your body better than anyone, so it is important to be still and quiet your thoughts. Hurry is one of the most popular reasons we miss our inner signals to pause when needed. We need to learn to pause, meditate and listen to what our gut is telling us. Ask yourself questions like, "What ingredients and foods would I like to eat right now"?

When you know and trust yourself, you gain inner guidance from your metabolism as to what foods your body requires.

Eat in peace!

"A crust eaten in peace is better than a banquet partaken in anxiety" - Aesop

Another important eating habit for good gut health is to eat in peace. This rings so true for me! It is important to chew slowly, to NOT rush your meal, NOR to eat when you are angry or upset.

As a young adult I lived in Greece for a time and I learned a lot about their healthy life style. For instance, during the week days offices closed around noon or 1:00 pm and everyone would go home for a light lunch with their families. After lunch they would take a short nap, shower and return to work.

When we rush our meals it interrupts our harmony, the flow of energy, and the time needed to enjoy a brief repose or as the French say, *repas!*

Additionally, the upper part of the stomach will expand while you eat (and even more so when you eat too much), adjusting to the amount of food it is receiving. However, if you are stressed then the walls of your stomach will stiffen, which increases the pressure on the antrum (the lower part of your stomach).

According to recent scientific research, when we over eat we need to lie on our left side like the Romans did (not on our right side, nor lying down).

To ensure a healthier life, we all need to eat smaller portions of fresh nutritious, seasonal foods and clean water or kombucha throughout the day. Just like our English ancestors, a mid morning or mid afternoon healthy snack is extremely beneficial. Tea time in addition to our regular meals helps hydrate and refuel the body. Starving yourself and eating one huge meal a day does NOT help your metabolism and can contribute to weight gain.

In summary, it is REALLY important to eat and think for the purposes of nourishing your mind, body and soul. Eat foods that are free of chemicals and pesticides and incorporate more pre and probiotic foods into your diet. Try to carve out time to do things that make YOU happy and, of course, get some moderate exercise daily and a good night's sleep.

These simple measures are the key ingredients and a sound foundation for living a balanced, happy, healthy, well-adjusted life.

As Hippocrates so aptly said *"If we could give every individual the right amount of nourishment, exercise and sleep (not too little and not too much) they will be placed on the path of ultimate health and happiness"*.

Welcome to “Lost and Found: A Timely Nutrition Reboot”!

Up until the Industrial Age and for the past 5,000 years or so, anyone who wanted to bake bread had to use a sour dough starter. In modern day Canada, Ione Christensen happens to be the proud owner of a 120-year-old blend of wild yeast and bacteria sour dough starter that has been handed down by her family from generation to generation.

In the past when young couples married, the community would rally together and help build their new home. The proud parents would give the recent newlyweds cast iron skillets and packets of heirloom seeds that had been handed down to them by their parents, and their parents before them.

The cast iron skillets I own are over 150 years old and, provide a wonderful source of iron when I prepare my meals in them.

Before the advent of refrigerators- fermenting, pickling, drying and other methods of produce preservation helped our ancestors deter and prevent food spoilage. Foraging and seasonal eating was actively practiced, immune systems were stronger and preserved foods sustained families during the cold winter months or long hot summers.

Fermentation due to its high nutritional value and low-energy preservation process, is becoming a cost-effective method of extending food shelf-life and ensuring food safety.

A win-win solution for the general public, the planet, as well as people living below the line.

Did you know that fermented, dried foods and herbs have 100 times more probiotics and nutrients than supplements?! That’s right! As such dried herbs produce more potent herbal medicine and kombucha.

It is important to note that on a global level one size does not fit all as each country has its own unique staple of probiotic and cultured foods.

In Asia it's products like lassi, jandh, gundruk, mesu, sinki, khalpi and kombucha. In Haiti it is pikliz (fermented spicy cabbage) and in Jamaica it is a fermented sourdough dumpling made with corn, plantain, sweet potato, or cassava meal and of course my all-time favorite, Jamaican ginger beer!

Sadly today, many have forgotten these handed down traditions (and yeast starters) and most of us have become heavily reliant upon highly processed, cheap foods or store-bought foods that have not been properly fermented or have been infused with chemically derived preservatives that kill our gut biome.

With this book, our desire and approach is multi-pronged. We hope to inspire people to rediscover their roots, embrace a pre and probiotic diet and a life style that will help promote a stronger metabolism, and ultimately, we hope to help prevent unnecessary food waste, ill health and death.

Global Fermented Foods Part I

Over the ages from China and the Fertile Crescent to Africa and the Americas, vegetables, meat, fish, dairy, grains and fruits have been cultured and/or fermented into food and beverages.

For our compendium of recipes of global fermented food products, we are focusing on each region's most popular.

For fermented and dried preserved food recipes consider the following categories: 1) Cereals and grains. 2) Vegetables and bamboo shoots. 3) Legumes and pulses. 4) Roots and tubers. 5) Milk products. 6) Fruits. 7) Beverages.

Every community across the planet has distinct food cultures that include fermented and cultured foods that symbolize their heritage and ethnicity.

The word “culture” denotes food habits and coincidentally “culture” is also known as a cluster of microbial cells. The diverse function of micro-organisms ranges from filamentous molds to enzyme or alcohol-producing yeasts, and even *archaea* (single cell micro-organisms) that play an important role in food and beverage fermentation process.

In this book we will focus on fermented and cultured foods of the Americas. For our second edition we will focus on Asia. For our third edition we will focus on Africa and the Middle East, and the last edition will cover Europe and the Mediterranean.

The Americas: Native America, Latin America and the Caribbean

Since Pre-Hispanic times, fermented products made from maize, cacao, plantains and cassava have been the most widely used by indigenous populations throughout the Americas and the Caribbean.

In fact, they have even developed and established a multitude of processes for transforming these four staple foods into diverse types of products that are still being used today.

Native American Cherokee Indians

My maternal great grandmother was Cherokee and Seminole Indian. As such I have always been curious about ancient civilizations and indigenous cultures and have admired how they managed to survive in harmony with their environment. *Take only what you need... If circumstances require you to take the life of an animal or plant for consumption, ask for permission and forgiveness! And always give thanks!*

Native American Indians generally moved every few weeks (or months, depending on the size of their tribe) so they would NOT strip the area of food and firewood. Instead of fermenting foods, these nomadic tribes instead dried berries, fruit, nuts, corn, squash, roots, onions, legumes, wild potatoes, and dried or smoked fish and meat into the smallest, lightest form possible which made them more transportable for tribes on the go.

It is no wonder dried products (fruits, nuts and herbs) are considered the foods of the gods as the drying process makes them more potent. They also contain a lot of fiber and are a great source of antioxidants, especially polyphenols.

Dating back to the 1500s throughout the Americas, colonial paintings rarely depicted overweight Indians with rotting teeth. These are the health issues that plague many of today's modern day indigenous tribes.

Consider today's most prevalent diet related health issues which are obesity, heart disease, stroke, type 2 diabetes, and tooth decay. None of these conditions were rampant prior to the period of colonization. Pre-colonization, Native American Indians preferred method of preserving foraged foods was to dry (instead of fermenting) because liquid fermented food products were too heavy to transport. As such, they primarily relied on dried food products. They also preserved their cooked meals in covered clay pots that they buried in the ground and insulated with grass. Additionally they removed the fat from the large animals they killed (such as buffalo or deer), and then boiled it down through a process called rendering. They learned they had to render the fat by cooking it down, along with small amounts of water, under a low heat so it would last longer and would not spoil. This rendered fat product was used as a natural preservative, repelled bugs, and lasted for a year without refrigeration (when kept in the shade).

One of the most popular staples among Native American tribes (including Canadian Indians) was Pemmican. Pemmican is dried, pulverized meat and dried berries, held together by rendered fat. This mixture was often molded into small balls. The fruit they used was dried chokecherries, blueberries or cranberries. Dried meat would be pulverized into a powder form, the dried fruit was also broken down into smaller pieces, and then mixed with the rendered fat. These balls of pemmican were then placed in rawhide bags for storage and transportation.

Did you know that 5300 years ago, Ötzi the frozen iceman died? It took scientists 20 years to figure out what his last meal was because they could not locate his stomach. Recently they discovered it hiding under his rib cage. Interestingly enough, his last meal consisted of ingredients found in Pemmican! However, instead of ground berries, the smoked and pulverised mountain goat meat was combined with ground wheat, held together with rendered fat and wrapped in a leaf.

Pemmican is nutrient dense and would last for one year without spoiling. Most tribes, as well as hunting parties, relied heavily on pemmican to get them through the long winter months.

Pemmican was also popular among many of the Canadian fur traders. You could eat a piece of pemmican raw or it could be cooked. Some tribes would use it as a soup starter by adding a few balls of pemmican to a pot of hot water with some vegetables.

Could it be pemmican was the inspiration behind “*cubitos maggi*”?!

Maggi’s dried consommé product line was the brainchild of Swiss inventor Julius Maggi who in the late 1800s wanted to improve the nutrition of working families. Cubitos maggi (just like MSG) are made from hydrolyzed vegetables. Want to take a wild guess how Julius Maggi died? He died of a stroke...

Following is another popular pre-biotic Native American Indian dish (recipe below), wild onions and scrambled eggs (all foraged)!

INGREDIENTS

1 cup or 2 dozen wild onions

2 tablespoons of water

6 organic eggs

Onions are considered pre-biotic which promote a healthy gut biome. Begin with a cup of wild onions chopped into small pieces (about an inch long). Warm 2 tablespoons of water in a cast iron skillet and add the chopped onions. Simmer while stirring until the onions are tender, adding a small amount of water if needed. When the onions are tender and most of the water has cooked off, add six beaten eggs and continue stirring until cooked. Yum!

Masa/Tortilla

This recipe for slaked corn (Nixtamal) can be used for making pozole (hominy) or for making tortillas.

Makes: 2 ¼ to 2 ½ pounds

INGREDIENTS

1 ½ pounds (1 quart) dried organic field corn
2 tablespoons "cal" slaked lime
2 quarts of water plus plenty for rinsing

Place the corn in a colander and rinse under cold water. This step will help loosen and rinse away any extra hulls and dust that might be coating the corn. Add 2 quarts of water to a large (at least 4 quart) pan. Place the pan over high heat and add the lime (cal) and stir until dissolved.

Add the corn into the lime water, stirring gently. Use a slotted spoon and remove any kernels that float to the top of the water. Allow the water to boil then reduce the heat to a simmer. If you are making the dough for tortillas, allow to boil 2 minutes. If you are making tamale dough simmer for 12 to 15 minutes. Remove the pan from the heat and allow the corn to soak. For tortilla dough allow it to soak, covered, overnight. For tamale dough, allow to soak for an hour. Remember the longer you soak, the stronger the fermentation process will be.

This step is very important. If you don't rinse and clean the corn properly your dough will be yellowish in color and taste like lime. Pour the corn into a colander and place it under cold running water. Rub the corn between your hands to loosen any hulls still attached to the corn. Drain the corn well. This cleaned, prepared corn is what is called "Nixtamal" or "Nixtamalado".

The traditional tool for grinding the nixtamal is a "metate y mano". Depending on the size of your metate, place a handful or two of corn on the top surface. Use downward pressure on the mano and roll across the corn (like a rolling pin). Continue until the corn becomes finely pulverized. Repeat until all the corn has been ground.

Plate-Style Corn Mill (Molino). While this is less labor intensive than the metate, the corn mill requires significant effort. Use the corn mill fitted with a stone plate. The stone plate, rather than a metal plate will produce the smoothest textured dough. Place the corn in the hopper and grind it using the finest setting. The resulting mixture should be smooth and not gritty. Once the corn is all ground add approximate 2/3 to 3/4 cup of water to the corn and mix to form medium-soft dough. My preferred method for heating tortillas is on a “comal” or a cast iron skillet. Refrigerate any left-over tortilla dough.

Food Processor. You can use your food processor to prepare the dough for tamales but it does not get quite fine enough for tortilla dough. Grind the corn in small batches, pulsing the corn 5 or 6 times. Then let the processor run continuously until the corn is the proper consistency. Your tortilla dough is now ready to be cooked.

Wild Yeast Recipe!

Making a wild yeast starter is easy. Whole wheat, rye or smelt flour works well for making wild yeast. Place equal parts of flour and spring water (or pineapple juice for the first water feeding or even the left over water from boiling potatoes) into a big jar, mix well, cover with a cloth and secure with a rubber band. The sugar in the pineapple and/or the starch from the potatoes will help jumpstart the fermentation process. Leave it on your kitchen counter next to your refrigerator (where it is nice and warm) and let it steep for a day.

On a daily basis, keep mixing in more organic flour and water to the barm (as it is traditionally called in England). On the third day, add more flour and water again and mix. Make sure you feed your barm every day. After a week you will see pockets of air bubbles in your starter which means you are ready for baking! To test it just add a tiny bit of your wild yeast starter into a jar of water. If it floats, it is ready. If it sinks, let it steep some more. Keep testing until it floats.

Wild Yeast Bread!

Mix in a bowl a cup of your yeast starter, a cup of water, a pinch of salt, and enough flour so the dough is firm. Knead the dough for about 10 minutes, cover it with a cloth and let it rise for about two hours. Push down the dough and then form into the shape of a football. Cover with a cloth and let it rise a second time for about three hours. Slash it two or three times diagonally with a sharp knife just before you are ready to place it in the oven.

The real trick here is in the baking. Raise the oven temperature to 425. The general rule of thumb here is that crusty breads should be baked at as high a temperature as possible. Soft shelled breads should be baked at lower temperatures. Add some water to an old baking tin (or you can add some ice cubes) and place on the floor of the oven. This will create steam. Transfer your dough gently to the peel. Then slide in the bread onto a preheated pizza stone. Bake for 20 to 25 minutes until it is deep golden brown and when it sounds hollow when thumped. Let it cool on a rack for a few hours, then slice it and enjoy!

Pickled Eggs!

Does anyone remember gas stations lined with jars of pink pickled eggs and other pickled unmentionables? I do! As a kid I'd always beeline it to the section with the RC cola and moon pies (yes my southern roots are showing). And no, I did not put peanuts in my RC Cola!

Now, pickled eggs are making their way into chic eateries! Following is one of my favorite recipes.

INGREDIENTS

6 hard-boiled eggs
1 jalapeno
½ of a small onion
2 garlic cloves
1-2 tablespoon of sea salt

Carefully pierce the peeled hard boiled eggs with a needle so it can soak in the brine easier. Place hard boiled eggs into a wide-mouthed Mason jar. Next slice jalapeno (minus the seeds) and add them to the jar. Chop your onion into medium diced cuts and place these in the jar with the jalapenos and eggs. Slice your garlic and add. Add salt and fill your jar with water at least one inch above your eggs, seal and give it a light and gentle shake to ensure that the salt is mixed well. Remove the lid and add a glass weight on top of the eggs so they stay submerged. Place a cloth over the mouth of the jar and secure with a rubber band. Leave on your counter in a warm spot for 3 to 5 days. When ready remove the cloth and seal with the original lid and store in the refrigerator. You can give your spinach salad a nice zing with sliced pickled eggs or even make a delicious egg salad. Enjoy!

For the Caribbean Segment of fermented recipes I have selected Jamaica, Haiti and Cuba because I have projects and/or family in these countries.

Jamaican Ginger Beer!

In the past ginger ale was the tonic of choice if you had an upset stomach or the flu. To make this popular brew, Jamaican grandmothers would mix the following:

INGREDIENTS

1 gallon water (non-chlorinated or spring water)
1½ cups organic sugar
4 inches of ginger root, washed and grated
¾ cup whey

Place a gallon of water in a large pot over high heat. Stir in grated ginger root and bring to a boil. Boil for about 3 minutes.

Remove from the heat and stir in sugar until dissolved. Cool to room temperature. When it has cooled to room temperature (around 80°F), stir in your whey or water kefir. If you do not have either you can use kombucha as your starter.

Pour into glass jars with lids. If using plain mason jars release the pressure from the jar at least once a day by loosening the lid. Or, you can place a cloth napkin over the top and secure with a rubber band, so the contents can breathe and ferment.

Keep at room temperature for 2 to 7 days (I prefer 7), until the ginger ale is fizzy (mine does not fizz because I do not use enough sugar). Strain out the pieces of ginger root (although some people like them). Pour into beverage bottles (leave some space at the top), secure with a lid and let sit at room temperature for 1 to 2 days before refrigerating.

Jamaican Sorrel Wine!

Sorrel drink is the official Christmas beverage in Jamaica. Jamaican sorrel (*hibiscus sabdariffa*) provides vitamin C, thiamine (B1), and riboflavin (B2). Flavonoids are healthy chemical substances found in plants such as sorrel and is also responsible for its deep red color.

INGREDIENTS

2 pounds of sorrel

Organic sugar, guarapo reduction or honey to sweeten (about 4 tablespoons)

1 ½ cups of water (for a richer sorrel drink, use less water)

12 allspice peppers

6 cloves

A handful of rice

Piece of ginger

Wash the sorrel and place in a pot that has a lid. Add 4 tablespoons of organic sugar and pour 2 cups boiling water over sorrel, stir until sugar dissolves, cover and let it stand for 6 hours.

Strain the pulp (discarded pulp can be used to make jam) from the sorrel and place the juice into the pitcher that has a lid. Add the allspice seeds, cloves, rice grains and ginger into a large, mix and cover. Sorrel drink tastes better after it has fermented for 3 days. Bottle and keep refrigerated for up to a year. You can serve on ice with a dash of rum.

Haitian Pikliz (spicy pickled cabbage)!

Pikliz is one of my favorite dishes so much so that I am constantly replenishing my home-made batch.

INGREDIENTS

2 ½ cups thinly sliced cabbage (from about 1/4 large cabbage)
1 cup julienned or grated carrots (from about 1 medium carrot)
1/2 cup thinly sliced shallots (from about 1 large shallot)
6 Scotch bonnet peppers, stemmed, seeds removed and quartered
3 sprigs of thyme
8 whole cloves
1 teaspoon organic salt
3 cups of water
3 tablespoons fresh key lime (or regular lime) juice

Pack the cabbage, carrots, shallots, peppers, thyme, cloves, and salt into a 1 ½ -quart jar that has a lid. Add water and lime juice, seal the jar, and shake until ingredients are distributed and salt is dissolved. Add more water if needed to make sure the vegetables are covered under the brine. Remove the lid and cover with a cloth napkin and secure in place with a rubber band. Let it steep for 3 days. After 3 days remove the cloth, seal and place in the refrigerator.

Haitian Mabi Drink!

Fermented Mabi is popular throughout the Caribbean and is known for lowering blood pressure. In Jamaica, the Dominican Republic and Trinidad it is known as Maubi.

INGREDIENTS

10 pieces of mabi tree bark
1 inch of fresh ginger (peeled and sliced)
2 whole sticks of cinnamon
3 strips of dried orange peel
5 whole cloves
7 ½ cups water, divided

1 cup of raw sugar

Bring 7 ½ cups water to a boil in a medium saucepan. Add the mabi bark, ginger, cinnamon, orange peel, cloves and let it boil for 5 minutes. Remove the pot from the stove and stir in sugar until it dissolves. Cover with a lid and let it steep until it cools to room temperature. Once cooled strain the liquid and then pour the Mabi into one or more wide-necked glass container, cover with cheesecloth and secure with a rubber band. Try not to fill the bottles all the way to the top as the Mabi may expand. For best flavor, place the bottles in a warm place for about 3 to 7 days. After 7 days, strain the liquid through a small mesh strainer or cheese cloth and transfer to bottles. I like to use recycled beer bottles that have the swing top bottle lids. Leave about 1 inch of breathing space when you transfer the liquid into the bottles. Seal and then chill until ready to serve.

Cuban Fermented Pru Drink!

Pru is considered a medicinal concoction that can lower blood pressure and strengthen the kidneys. Pru preparation has changed over the years and the original recipe included chichicaste (nettle). Following is the current recipe:

INGREDIENTS

1 piece of chinaberry root

½ cup of ubi berries

½ cup of soap berry

1 piece of ginger root

6 sweet pepper leaves (all spice)

4 cinnamon sticks

1 cup of raw sugar or guarapo reduction

6 cups of water

2 cups of pru starter (allow it to ferment longer if you don't have a starter)

The Cuban preparation method is to bring 6 cups of water to boil. While you are waiting for the water to boil start grating the chinaberry and ubi, dice the pepper leaves and ginger. Turn off the heat and then add all of the ingredients **minus the pru starter** to the pot of hot water. Stir well until the sugar dissolves, place a lid on the pot and allow it to steep until it reaches room temperature. Strain the cooled mixture and pour the tea into a glass container. Add the 2 cups of pru starter and then place a cloth over the mouth of the container and secure with a rubber band. Let it sit for 12 to 24 hours (or up to 7 days if you do not have the pru starter). After it has fermented to your liking then bottle and place in the refrigerator.

Fermented Foods of Central America

Mexican Hot Sauce!

INGREDIENTS

1 cup of hot peppers chopped into rings (about 6 medium size peppers) - You can use any hot pepper but if you want it to be authentic then use guajillo, jalapenos or pasilla peppers.

2 garlic cloves, mashed and peeled

1 cup of spring water

½ tablespoon of organic sea salt

Place the hot peppers and garlic cloves in a glass jar. A pint-sized mason jar will be fine. Prepare the brine by heating up 1 cup of water and adding the salt. Stir the salt until dissolved and let the brine cool to room temperature. Once the brine has cooled pour it into the jar with the hot peppers and garlic. Cover with a piece of cloth and secure with a rubber band. Place it on the counter for 2 to 3 days. I like to place mine near my refrigerator as it produces the right type of warm temperature that is required for adequate fermentation.

Stir the brine each day or every two days to prevent mold from forming on the top. The brine should become cloudy in 2-3 days

depending on the temperature of the room. Once it's cloudy and smells slightly sour, place it in a blender and blend until smooth. Then transfer it to a glass jar and store it in the refrigerator. Num-num-num!

Fermented Guatemalan Coffee!

I grew up in Honduras and Guatemala and Guatemalan coffee is by far one of my favorites. Did you know there are over 360 microclimates in Guatemala, and a multitude of different varieties of coffee? My father's best friend, Raul Valdes owned a coffee plantation outside of Antigua, Guatemala. Raul's family's plantation dates to the 1500s so coffee growing is in their genes! My father taught me that coffee grown at certain altitudes has a distinct bearing on coffee flavoring. My father and Raul loved to experiment growing coffee at different altitudes. Another important flavor factor they talked about is whether to leave the skin on the coffee bean or not. Leaving the skin on can be challenging in terms of obtaining consistent flavoring but it produces a sweet, full body, and very distinct flavor.

Following are some helpful tips for producing flavorful coffee. Identify the coffees you are going to natural/honey process and their sensory attributes. Savvy coffee producers will know the quality of specific coffees and varieties when they're washed processed and can identify the best coffees needed for natural and honey processing.

Follow these best harvesting practices! The coffee cherries must be free of pest damage, disease and under-ripe or overripe cherries should be removed. Additionally, for honey fermentation processing it is recommended to leave the cherries for 24 hours before de-pulping (providing the climate is suitable).

For the best results, dry the coffee slowly. Use wooden raised beds to ensure airflow. Picky coffee producers will go the extra mile and move the coffee beans regularly (every two to three hours during the first few days).

Once dried, we are now ready for the coffee roasting! There are many ways to roast coffee and at varying temperatures. Across the globe, each country has its own tailored method for roasting coffee. In Honduras they add a little bit of sugar while the coffee is being roasted. In other countries they add cinnamon or

cardamom. While the coffee is roasting, listen for a popping or cracking sound. There are two temperature thresholds called "cracks" that roasters listen for. At approximately 196 °C (385 °F), the coffee will emit a cracking sound. This point is referred to as "first crack," marking the beginnings of a "light roast". At first crack, a large amount of the coffee's moisture has been evaporated and the beans will increase in size. When the coffee reaches approximately 224 °C (435 °F), it emits a "second crack", this sound represents the structure of the coffee starting to collapse. It is at this point that you need to stop roasting and allow the coffee to cool down. Once at room temperature, you are ready to grind your coffee and brew up cup of java!

Fermented Chicha Beer is popular in Central and South America

Chicha has been a long standing popular beverage throughout the Americas. Chicha itself is a fermented beverage. However, the vegetable or fruit used in the fermentation process will vary. In Honduras it is typically made from fermented fresh pineapple. Way down south, Chicha is made from cassava and is also known as cassava beer. A long standing favorite dating back to Incan times is the Chicha frutillada, which is fermented corn flavored with strawberries and herbs. The longer the fermentation process, the stronger the beer and alcohol content.

Honduran Pineapple Chicha!

INGREDIENTS

1 pineapple
½ of organic sugar or guarapo juice (sugar cane juice), or piloncillo
8 cups of water
3 cloves

If the pineapple is organic, cut off the skin, slice the pineapple and remove the core. Store the sliced pineapple in the refrigerator and place the skin and core in a large glass container along with

½ cup sugar. Cover with 8 cups of warm water and stir well to combine. Taste and add more sugar if needed. I don't like to add a lot of sugar, but it is required for the fermentation process. Make sure all the pineapple is submerged (if it's floating, use a small glass jar to press the fruit down. Cover with a cloth, secure with a rubber band and place in a warm spot for 7 days. Check it daily to make sure the fruit is still submerged. If any white film appears on the top, don't worry, this is natural scobby and can be reused as a starter for another batch or for making tea kombucha. On the 7th day, pour off the chichi juice into canning jars, seal but don't fill it to the brim and leave room at the top. Refrigerate and consume at your leisure!

Honduran Fermented Horchata!

INGREDIENTS

For the Concentrate

1 cup white rice

1 cinnamon stick, broken in half

6 cups of water, divided

½ cup raw honey or rendered guarapo (sugar cane juice)

To Serve

3 cups almond or dairy milk

½ teaspoon cinnamon

1 tablespoon of vanilla infused sugar (store a vanilla bean in raw sugar)

¾ cup of the fermented Horchata

Combine the rice, cinnamon stick, and 4 cups of the water in a medium saucepan. Place over medium heat and bring to a boil. Simmer for 10 minutes and then remove from heat.

Stir the additional 2 cups of water into the rice mixture and allow to sit for at least 2 hours or overnight.

Remove the cinnamon stick and either put the rice mixture through a sieve and discard any particles remaining in the sieve or blend the rice mixture and then strain.

Combine the strained rice mixture with the raw honey/guarapo in a quart (1 liter) jar. Cover with a permeable lid such as a clean cloth or a coffee filter secured with a canning ring or rubber band. Leave to ferment for 4 to 7 days or just until it begins to taste tangy. You may also see hints of bubbles beginning to form. It may separate during the fermentation process. Don't worry if it does, simply stir it.

Once fermented, pour the liquid in a glass container, seal and refrigerate.

Incurtidos! Pickled veggies are a staple across the globe. In Italy it is called Giardiniera. In the Americas and the Caribbean each country has its own unique version of incurtido.

El Salvadoran Incurtido!

INGREDIENTS

½ head cabbage, shredded

1 large carrot, grated

½ medium yellow onion, thinly sliced

¼ cup warm water

½ teaspoon salt

½ teaspoon brown sugar or rendered sugar cane juice

1 teaspoon dried oregano

½ to 1 teaspoon red pepper flakes

Combine the cabbage, carrot, and onion in a large glass jar.

Combine the remaining ingredients in a large measuring cup, stir well, and then pour over the cabbage mixture. Cover with a cloth, secure with a rubber band and let it steep for 3 to 7 days. After it has fermented refrigerate for a day before serving. You can eat the incurtido as side dish with a meal or you can put a tablespoon full on top of a pupusa (tortilla stuffed with cheese)

or tajaditas (home-made plantain chips). It is also served with carne asada (skewered roasted meat).

Nicaraguan Mantequilla Crema!

My favorite mantequilla crema (sour cream) hails from Nicaragua!

INGREDIENTS

1-2 tablespoons kefir grains (if you don't have kefir, use 2 tablespoons of organic mantequilla crema)
2 cups milk (raw cow or goat milk)

Place 1-2 tablespoons of kefir grains into a clean pint-sized mason jar. The more kefir grains you use, the faster it will ferment. Cover the mason jar with a cloth, secure with a rubber band and set it out on the counter for anywhere from 12 to 36 hours. The kefir grains will culture the milk. You will know when it's ready because it will become thick and contain air bubble pockets. The longer you leave it out, the tangier and cultured it will become. If it separates into a clear liquid and clumps, it's ready. Remove the cloth, secure the lid and place in the refrigerator.

Doña Aida's Cuajada Cheese!

INGREDIENTS

1 gallon of fresh cow or goat milk
1 large plastic bowl or ceramic bowl
1 cloth big enough to cover the bowl
2 drops of liquid rennet or ½ if in pill form
1 container with a lid for storing the final product

Doña Aida, Neida Sandoval's mother taught me how to make queso cuajada in a tiny town called Las Minas de Oro, Honduras. Everything she eats is done in true farm to table fashion. She recently turned 90 and is still going strong.

Add a gallon of fresh cow or goat milk in a big bowl and cover with a cloth. About six hours later, take the cream off the top of the milk and set it aside for butter making. Add 2 drops of liquid cuajo (uni-enzyme) and mix well (I like to use vegetarian rennet). About 30-45 minutes later, mix well with your hands and add about 3 cups of water. About 10 minutes later, press the cheese in a downwards motion with your hands. Slowly gather the cheese to one side of the tub, leaving the whey separated. Take the cheese out of the suero (this is what they call whey) and put it in another bowl that has a lid. Runoff the whey by massaging the cheese with your hands (conserve the whey for consumption). When it is sufficiently dry, add a little salt if you'd like. I like my queso cuajada plane. Seal with a lid and store in the refrigerator.

Fermented Foods from South America

Since pre-Hispanic times, fermented products made from maize, cacao, and cassava have been the most widely used products in Colombia. Check out the following Colombian favorites.

Colombian Sour Starch!

The fermented sour starch of cassava known as “Almidón Agrio” is obtained by a starch fermentation process before drying. This 2-step process starts with washing and then grating the roots. Wash the cassava roots again and strain off the water. Add the grated mixture into a glass container, add equal parts of water (feel free to save the left over yeast water from previous batches and this will jumpstart the process, cover with a cloth and secure with a rubber band. Ferment for 20 days and then dry for 8 days. Now you are ready to use your homemade sour starch to bake bread!

Colombian Champús!

Champús is a low-alcoholic beverage with a sweet/sour taste obtained by the natural fermentation of heat-treated maize. To produce champús, wash and mass up the corn kernels. Boil for 2 hours and allow it to cool to room temperature. Transfer to a glass jar and add pineapple or panela (dried sugar cane juice). Add some cloves, cinnamon and orange tree leaves. Stir well, cover with a cloth and secure with a rubber band. Leave it to ferment for two days up to seven days. Strain and store in sealed bottles in the refrigerator.

Colombian Kumis!

Kumis is fermented cow milk, widely consumed in rural Colombia. A similar drink called koumiss is made from unpasteurized fresh mares’ milk in Central Asia. To produce traditional kumis, ferment raw whole milk in a cloth covered jar

for 2 or 3 days at room temperature. Transfer to sealable bottles and refrigerate. Serve chilled with sugar and cinnamon.

Colombian Ocaña Sweet Bread!

The Aunt of my Colombian artist friend, Eva Ruiz, described a traditional sweet bread called Ocaña. Search as I may. I have not been able to locate this delectable treat. All I know is it is made from fermented sugar cane yeast. If anyone can get their hands on this recipe, please share!

Colombian Chocolate!

Last but not least we've finally arrived at my all-time favorite, CHOCOLATE! Yes, chocolate is fermented and now you know why your body craves chocolate so much when you are stressed! In my humble opinion, the best chocolate bean in the world comes from Colombia.

The day and a life of a cocoa bean!

When the cocoa pods turn yellow, they are carefully harvested, and then opened manually with a machete. The ripe cocoa beans are surrounded by a white viscous film. Seeds are removed from the pods and then placed in a bucket. When the bucket is full they are transferred to a wooden fermentation bin which is located outdoors. They cover the bins with banana leaves. During the fermentation process the pulp will drain and commence to break down. Fermentation can last between 3 to 7 days depending on temperature, type of beans, quantity, etc. When the beans have turned a "chocolate color", the sun drying process begins and can take up to 5 to 10 days. After the cocoa beans are dried they are shipped to the manufacturer. The manufacturing process differs slightly due to the different species of cocoa trees, but most factories use the same machines to break down the cocoa beans into cocoa butter and chocolate. First off, the fermented and dried cocoa beans will be refined by winnowing and roasting. Then, they will be heated and will melt into chocolate liquor. Lastly, manufacturers blend the chocolate liquor

with sugar and milk. After the blending process, the liquid chocolate will be stored or delivered to the molding factory in tanks and will be poured into molds for sale. Finally, wrapping and packaging machines will pack the chocolates and then they will be ready to transport.

Peruvian Corn Chicha (minus pre-chew method)!

INGREDIENTS

Makes about 1½ gallons

1 pound fresh corn, cut from ears

1 gallon water

1 cup of unrefined sugar, guarapo (cane juice) or piloncillo

1 pinch of freshly grated ginger

1 pinch of fresh lime zest

In a food processor, coffee grinder, or mill, coarsely chop the corn. Transfer the corn to a pot (that contains a lid), add hot water and mix in the sugar, stirring to dissolve. Cover with the lid and chill to room temperature. Pour the corn mixture through a strainer or cheesecloth into a large glass container; add the ginger and lime zest and stir. Cover with a cloth, secure with a rubber band and set aside to ferment 3 to 7 days or longer, depending on your taste (I like 7 days for all my fermented products). Cover with a cloth, secure with a rubber band and place in a warm, dark place for 7 days. On the 7th day, pour off the chichi juice into canning jars, seal but don't fill it to the brim and leave room at the top. Refrigerate and consume at your leisure!

Chicha de Yuca (or Yucca Chicha)!

INGREDIENTS

1 gallon of water

2 Yucca (cassava) – medium size

1 Sweet potato or yam

1 ripe plantain (or banana)

1 cup of unrefined sugar, guarapo (rendered cane juice) or piloncillo

Bring your water to a boil. As you wait for the water to boil, peel the yucca and sweet potatoes and cut into chunks. Place them in the boiling water and let them cook for about 20-30 minutes or until soft. Remove from the heat, mix in the sugar and let it cool down to room temperature. Scoop out the yucca and sweet potato and reserve for other dishes. Cover with a cloth, secure with a rubber band and set aside to ferment 7 days. On the 7th day, pour off the chichi juice into canning jars, seal but don't fill it to the brim and leave room at the top. Refrigerate and sprinkle with cinnamon when ready to consume!

Quentão de Vinho - Brazilian Mulled Wine!

In the southern part of Brazil, Quentão de Vinho is a heated mixture of red wine, ginger, sugar, and cinnamon and cloves. In northeastern part of Brazil, Quentão is made from cachaça instead, a distilled alcoholic beverage which is made from fermented sugarcane juice.

INGREDIENTS

34 ounces (1 liter) of grape juice

17 ounces (1/2 liter) of water

1 orange, sliced

2 slices of fresh ginger, peeled

6 cloves

3 cinnamon sticks

1 cup sugar or sugar cane juice (depending on your taste)

Place all the ingredients into a large saucepan and stir constantly over high heat, stirring constantly until sugar has dissolved (for about first 2-3 minutes). Strain and pour liquid in a jar. Place cheese cloth over the top of the jar and secure with a rubber band. Allow to ferment for 3 to 7 days. Once it has fermented to

your liking, remove the cloth, seal and refrigerate. Serve on the rocks with fruit garnish. Enjoy!

Argentinian Chimichurri!

INGREDIENTS

½ cup olive oil (I like to use light olive oil instead of extra virgin)
2 tablespoons of lemon, lime or fermented red wine vinegar
½ cup finely chopped parsley
3-4 cloves garlic, finely chopped or minced
2 small red chilies, or 1 red chili, deseeded and finely chopped
(about 1 tablespoon finely chopped chili)
¾ teaspoon dried oregano
1 level teaspoon coarse salt
Pepper to taste (about 1/2 teaspoon)

Mix all of ingredients together in a bowl. Allow to sit for 5-10 minutes to release all the flavors into the oil. Place in a glass jar, cover with a cloth, secure with a rubber band and leave on the counter for 8 hours. Remove the cloth and refrigerated until ready for use. Allow the chimichurri to warm to room temperature before serving unless you are using it as a marinade. Refrigerate when you are done serving your chimichurri sauce.

Chilean Chori-Pan with Pebre!

INGREDIENTS

Chori-pan which is short for fermented chorizo (sausage), and pan (sour dough bread) is my daughter's favorite meal. Her best friend's Chilean grandfather taught her how to make it. The trick is in the pebre sauce which comes in many variations. This recipe is the traditional version.

1 cup peeled, seeded, and diced tomatoes
1/4 cup chopped fresh cilantro leaves
2 teaspoons olive oil
1 teaspoon chopped garlic
1 teaspoon red wine vinegar

1 scallion, finely chopped

Salt and pepper to taste

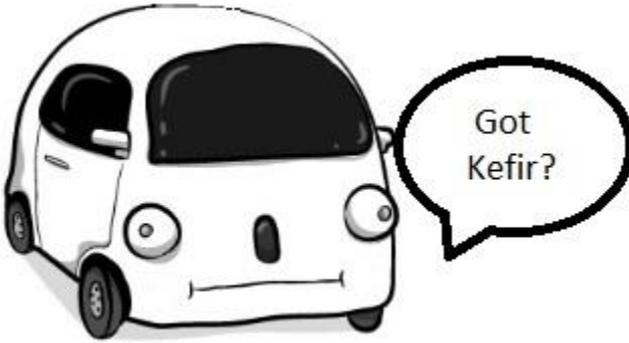
Chop everything as finely as you can and then mix all of the ingredients together in a bowl. You are now ready to add this prebiotic infused salsa to your sausage and sour dough sandwich!

Fermented Healing Remedies!

Precision medicine is a relatively new medical model that proposes customized healthcare, with medical decisions, treatments, practices, or products being tailored to meet the needs of the individual patient.

My fingers are crossed that one-day precision medicine may even include nutrition and diets that target specific illnesses.

Can you envision a future with self-driving food trucks stocked full of pre-biotic vegetables, precision kombucha, cultured foods and other fermented products?! I predict a healthier future is on the horizon!



Did you know that new research concluded that children born by cesarean section are 80% more likely to develop digestive disorders including celiac? Yes, your mode of birth directly impacts your immune system's ability to fight diseases.

We already know that kombucha contains antioxidants and strengthens our immune system. Did you also know it improves digestion, reduces inflammation, improves cholesterol levels, helps with blood sugar control and even weight loss? So, why not apply precision medicine to Kombucha tea preparation?!

The perfect Kombucha begins with the perfect tea leaf and die-hard tea lovers get this important message. The art of tea

purveying is steeped in ancient traditions (no pun intended). Timing for harvesting and the drying of the tea leaves directly impacts the teas' potency. And just like when a pregnant woman's body becomes flooded with nutrients right before she gives birth, plants are flooded with nutrients right before they flower in the spring. As such timing and proper tea drying methods create the strongest variations of tea just like 7 days of steeping matters greatly during the Kombucha fermentation process.

Following is a list of teas for treating some of today's most prevalent illnesses:

Diabetes – Ginseng, ube root, bilberry (reduces glucose) tea and coriander tea (will help boost liver and kidney function).

Cancer – Asparagus, moringa, ginger, turmeric, red clover, astragalus, rosemary.

Prostate Cancer – Corn silk, celandine, neem, turmeric, cauliflower.

Liver Disease – Milk thistle, burdock or dandelion.

Leaky Gut – Plantain leaf, calendula, marshmallow root, fennel.

High Blood Pressure – Sage, mabi bark, ginger, hawthorn, garlic.

Kidney Disease – Parsley, hydrangea root, goldenrod, horsetail, celery, uva-ursi, nettle, burdock root, chanca piedra.

Lung Disease – Licorice, ginseng, grapeseed, eucalyptus, peppermint.

Heart Disease – Arjun, moringa, black tea, red clover, yerba mate, pineapple (good for reducing artery clogging plaque).

Celiac – Olive leaf extract, Goldenseal and chamomile, celery seed.

Crohns – Boswellia, slippery elm, lemon grass tea.

Malaria – Artemisia annua, coptis chinensis, phellodendrun.

Candida/Cradle Cap – Neem, peppermint, calendula, turmeric, pau d’arco.

Rheumatoid Arthritis – Turmeric, astragalus, ginger, boswellia serrata, nettle

Scoliosis – Kale, alfalfa, oregano, thyme

Pregnancy (Preeclampsia) – Moringa, red raspberry leaf, nettle, rose hips, alfalfa, yellow dock.

Nota Bene: The Norwegian Institute of Public Health conducted a study titled *Women taking probiotics during pregnancy might have lower pre-eclampsia and premature birth risk*. The results of this study demonstrated that probiotic milk intake in late pregnancy was significantly associated with lower preeclampsia risk (adjusted OR: 0.80 (95% CI 0.68 to 0.94) p-value: 0.007). Probiotic intake during early was significantly associated with lower risk of preterm delivery (adjusted OR: 0.79 (0.64 to 0.97) p-value: 0.03).

Precision Kombucha Tea Instructions

INGREDIENTS

Gallon size glass jar

1 gallon of water

1 cup of sugar per gallon of tea

1 family size tea bag or 3 small bags - please see the above noted products for tea substitution for precision tailored kombucha

1 cup of liquid from a previous batch of kombucha

Fermentation cover or coffee filter or thin cloth and a rubber band

Bring water to boil and remove from the heat. In a large glass jar add 1 cup of organic sugar or sugar cane syrup and tea bags. Pour in warm water and mix well until the sugar is dissolved.

Let tea cool to room temperature.

Once tea has cooled down, pour in ½ cup liquid from a previous batch of kombucha or pour in ½ cup from a store-bought bottle of kombucha.

Cover the jar a cloth and seal with a rubber band.

Put the jar in a warm corner of the kitchen where it is at least a few feet away from other fermenting products. Close to the refrigerator works well for me.

Let it ferment for 7 days, though the length of time may vary depending on your taste. You can test taste the kombucha with a straw. It should taste tart and slightly vinegary.

After 7 days the Kombucha will be ready for a second ferment. Just pour the kombucha into another jar or jars with airtight lids, seal and refrigerate. Make sure you leave 1/3 left as your starter for a new batch of Kombucha and add any juice flavoring of your choice to the finished product. This extra juice will help create carbonation.

Remember to replenish the tea you removed from your main Kombucha preparation. If you don't have time to prepare a new batch then seal and store your starter in the refrigerator. The scoby (aka the mother) will last up 3 months in the refrigerator. SCOBY stands for Symbiotic Colony Of Bacteria and Yeast. The scoby forms in layers that can be peeled off. A perfect gift for any of your friends who want to start their own kombucha tea making process. A scoby layer also comes in handy for kitchen burns. I've used it and it reduces the pain and cuts the skin's healing process in half.



Prebiotic Foods!

So far, we have covered what foods and products we should NOT consume and what fermented foods we SHOULD consume.

Now let's talk a little bit about the types of pre-biotics foods that we should be eating.

Today people are becoming more aware of which foods offer dietary fiber and the benefits of consuming probiotic products. By large, we still do NOT consume enough prebiotics in our daily diet and sadly the end-result can aggravate our indigestion, produce higher levels of inflammation, lower our immune

system, increase our weight gain and raises the risk for various chronic diseases.

While the best probiotic foods are essential for maintaining your gut health, *prebiotics* help “feed” the probiotics in our gut and internal organs. By pairing the two together, we can begin to achieve a better balance within our gut biome.

Following is a partial list of raw prebiotic foods:

1. Chicory Root
2. Jerusalem Artichoke
3. Dandelion Greens
4. Garlic (and their greens)
5. Leeks (and their greens)
6. Scallions and onion (and their greens)
7. Asparagus
8. Cabbage
9. Carrots (and their greens)
10. Watercress
11. Legumes
12. Chickpeas (the black variety is more potent)
13. Soy
14. Chayote
15. Avocado
16. Beets (and their greens)
17. Apples
18. Berries
19. Seaweed
20. Spinach
21. Collards
22. Kale
23. Radishes (and their greens)
24. Celery
25. Brussel Sprouts
26. Broccoli
27. Cauliflower (and their greens)
28. Mushrooms

I was recently reading a study on high blood pressure control and stroke mortality trends from 39 countries from Europe and Central Asia. While I was conducting a statistical analysis, I stumbled upon a graph chart with disaggregated country-specific results. I noticed the geographical distribution of the mortality rate for strokes showed significantly lower numbers for two countries, Ireland and Germany. This made me wonder what correlation existed between their diets? Then it hit me...

Octoberfest! Beer, ales, ciders, sausages and sour dough breads, all fermented! From Irish bangar hot dogs topped with sauerkraut served on a sour dough bread to pretzels, beer, sauerkraut and rohwurst (raw, dry fermented) sausage! Guess which country had the highest stroke mortality rates?! Russia... and their preferred beverage happens to be vodka which kills the gut bacteria. Another alcoholic drink that kills the gut bacteria is gin.

Food for thought indeed!

It is my hope that in the not too distant future, the microbiome could become the cornerstone of personalized medicine. Can you imagine having a database of microbial fingerprints and what this valuable information would reveal?

I can't help but wonder what the microbial fingerprint of Robin Williams, Kate Spade and Anthony Bourdain would tell us.

The forensic scientist in me is very intrigued.

The best in-roads for a healthier life will be mindful eating and becoming more aware of the foods we consume, the medicines we take, the toiletries we put on our skin/hair, even the toothpaste we use to brush our teeth and the deodorant that goes straight to our lymph nodes. Lymph nodes are part of the vascular system and a member of the body's immune defense system.

In this book we are not suggesting that ALL processed foods, distilled spirits and toiletries are bad for you nor are we stating that ALL medicines produce unhealthy outcomes.

As we all know, moderation is key in everything.

It is our sincere hope that this book will inspire the general public to become more informed about their diet, eat healthier and talk about their dietary needs with their doctors.

Maybe the food/personal product manufacturers and the pharmaceutical industry will take some time to reconsider their mission and vision and perhaps consider realigning same so they are more in tune with organic, seasonal and more circular based oriented products.

One can dream, right?!

Eating organic and living more mindfully not only benefits humans, but the environment and all who inhabit our planet.



**Ink Drawing Credit Roberto Saavedra Walker
"Ceres, The Goddess of Harvest" 2014**

Postscript

My younger sister Deborah Cornely died when she was 42 years-old. Twelve years have gone by since her passing and yet it still feels like yesterday.

In the true “Cornely” fashion my sister was very much an idealist and romantist. Her self-willed drive and determination helped forge a successful career and she went on to launch her own business. Later in her life she developed an impractical relationship with an opportunistic individual. She fell for him because he was unloved and unwanted, feelings she strongly associated with due to her tender age when our parents divorced.

She was a good wife who doted on her husband and catered to his every desire. The day after he received his green card, he served my sister with divorce papers. Her heart grew heavy and she spiraled into a deep, dark depression.

I did everything I could to help my sister, who was my best friend. Yes, my sister was on anti-depressants which made her imbalance even worse. I can still hear her voice saying; these anti-depressants are hurting my head, I feel suicidal, I can't sleep, I don't want to get out of bed, look at this weight I've gained... My response was always the same, we will get through this, just ask your doctor to draw blood work so he can analyze and recalibrate your dosage. Remember our mantra Deborah, **RELENTLESS REALIGNMENT!**

If I knew then what I know now, my sister might still be here with us today.

This book is a labor of love and has been extensively researched. It is far from over as there are many undocumented fermented and cultured products out there that still need to be catalogued.

And, maybe, just maybe this book will help save other sisters or brothers, or mothers and fathers and everyone else in between.

Life is worth living!