



Advanced Functional Nutrition *Mini-Series*

presented by **mbg**

Stocking A Healthy Kitchen



with Kelly LeVeque

We're going to learn the basics of building a healthy, organic, and sustainable kitchen at home, from sourcing high quality and nutrient-dense ingredients to understanding food labels and tips on stocking a pantry and refrigerator. This is a practical guide to clean shopping and clean eating at home. We'll touch on the three macronutrient food groups. That's protein-- meat, seafood, eggs, and dairy; carbohydrates-- fruits, vegetables, and grains; and fats-- oils, nuts, and fatty fish.

Along the way, we'll introduce some key terms, concepts, and basic nutritional science behind the foods we eat. For example, why buying local produce is important; what organic actually means; the difference between grass-fed, pasture-raised, and free-range; meat and poultry; and how to stock and use clean ingredients in your pantry and refrigerator, such as different flowers and cooking oils. The goal is to provide a high level but useful overview to help you start building and cooking in your own clean, green kitchen. Let's get started.

One of the pillars of a green kitchen is fresh-- local and organic produce. And by that, I mean fruits and vegetables. These non-starchy carbohydrates contain a ton of essential vitamins, minerals, and fiber that help keep us healthy and power our biological processes. In order to purchase the cleanest, most nutrient-dense produce, it's important to understand when, where, and how it's grown. Ideally, you want to buy produce that's in season.

Seasonality refers to the historical harvest season for a particular fruit or vegetable. It's a specific time of year that produce in your geographical region is picked and sold to market. The reason is simple-- different crops need different conditions to grow. Some grow better over the winter, others during the summer. Although

whether, growing conditions, and other factors may cause some variation year-to-year, things are usually in season at the same time each year.

Buying in season is important for two reasons. First, that's the way our bodies were designed to consume fruits and vegetables-- seasonally. Second it helps you buy food that was grown locally, and that matters from both a nutritional and environmental standpoint. In today's world, produce that may be out of season in your area can be shipped to your grocery store from thousands of miles away, where it may in fact still be in season. The problem is all that time spent in transit. Ships and trucks use resources and cause pollution. And as for fruits and vegetables, the travel time negatively affects nutrient value.

From the moment plants are picked, they begin to lose nutrients through a natural process called respiration. Essentially, plants must break down and release their own stored nutrients to stay alive. They do this at a different speed called cellular respiration rates. The farther your produce has to travel, the more nutrients it must use. The stresses of travel, including fluctuations in temperature and rough handling, can exacerbate the process and increase respiration rates. For example, broccoli has a really high respiration rate, and even though refrigeration slows its deterioration, one study found that vitamin C levels were nearly undetectable at a mere seven days post-harvest.

The bottom line is, the longer it takes for your produce to get to you, the less nutrients it will contain. Thus, one of the benefits of sourcing your produce from local farms and growers is less transit time, which means more nutrients. It's also fresher and closer to its peak date. And as mentioned before, locally-grown produce tends to be more seasonal.

So where do you buy local produce? Is it at the grocery store? Do you have to drive to a farm? Well, if you want to, go for it, but there are a lot of closer places. The key is to do a little research and ask a few questions. One of the best places to buy fresh local fruits and vegetables is at a farmers market.

Farmers markets are a one-day neighborhood street market that typically occurs on a weekly or monthly basis. They're organized by many cities and communities all over the country. Farmers markets connect you with local independent growers and farmers in your region. You'll be buying in season according to the crops they're growing. And you'll be reducing the time and distance your food travels to get to you, which means more nutrients and less environmental impact.

One caveat. Just because the food is local doesn't necessarily mean it's grown with organic methods. Being certified organic can be expensive, so ask your local farmers market vendor about their growing practices. We'll discuss what organic means in a few minutes. If you're shopping in a grocery store or a big chain, you want to know where your produce is coming from. Just read the label. It should specify the country and state of origin, which should give you a rough idea of how long it's been since its pick date.

Some stores may publish exactly what farm it came from. When in doubt, just ask. There are also a growing number of options for sourcing your produce online, including through local farm cooperatives or associations that send you a box every month. Regardless of how you do it, the goal for a green kitchen is to buy fresh local produce that's in season where you live.

Now let's talk a little about growing practices. Another pillar of building a green kitchen is stock it with the produce that is organic and non-GMO. Organic produce that's grown on farm is committed to sustainable and environmentally friendly agricultural methods. In order to use the certified organic label, a farm must be certified by the US Department of Agriculture and meet strict standards regarding how fruits and vegetables are grown. For example, the permissible levels of pesticides, chemical fertilizers, and other synthetic additives is restricted, as are the use of industrial solvents and irradiation. Naturally, many people don't want these additives in their produce they eat.

They can also pollute the environment, namely through water and soil contamination. When you're at the store, look for a USDA Organic label. That's how you know you're buying from a certified organic farm. For the record, there has been some debate in the scientific community regarding the nutritional value of organic versus conventionally-grown food. Some studies have concluded there is no advantage while others have found the opposite, such as organic food having higher concentrations of polyphenols, which are natural chemicals with various health-related benefits. At the end of the day, buying organic is a personal decision. Organic produce is a little more expensive, but many people find it tastes better and they like knowing that potentially harmful synthetic additives are limited.

If cost is an issue, you can use the environmental working groups Dirty Dozen and Clean 15 lists as cheat sheets to help you decide what to buy organic versus conventionally-grown. Using USDA data, the EWG looked at the amount of pesticide residue found on conventionally-grown fruits and vegetables after being washed.

What they found was a dozen items that tested positive for at least 47 different chemicals. The so-called Dirty Dozen includes celery, peaches, strawberries, apples, domestic blueberries, nectarines, sweet bell peppers, spinach, kale and collard greens, cherries, potatoes, imported grapes, and lettuce. These would be things to try to buy organic.

The EWG also found 15 items with little or no traces of pesticides. The "Clean 15" includes onions, avocados, sweet corn, pineapples, mango, sweet peas, asparagus, kiwi fruit, cabbage, eggplant, cantaloupe, watermelon, grapefruit, sweet potatoes, and sweet onions. These would be the things that you could buy conventionally-grown.

One other quick tip-- if you want to buy organic but you don't see organic on the label for some reason, just look for a five-digit number on the produce sticker that starts with a 9. That's a cue that it's probably organic. If you see a four-digit number that starts with a three or a four, it's probably going to be grown conventionally.

Another growing practice to be mindful of when it comes to your fruits and vegetables involves the use of GMOs or genetically modified organisms. Traditional crop and seed breeding has been going on for centuries, but in the last few decades, we've begun to actually alter the genetic makeup of plants and genetically engineer them for specific purposes. For example, the agriculture conglomerate Monsanto genetically engineered certain crop seeds to be resistant to the company's herbicide roundup to allow farmers to spray for weeds without damaging their crops. In the United States, over 90% of corn, soy, and cotton is genetically engineered.

Many brands, organizations, and consumers are wary of the potential negative health effects of GMOs. For the record, these effects have been debated in the scientific community. Nevertheless, many in the health and wellness space have decided to err on the side of caution and only buy non-GMO until more research is completed.

Like buying organic, purchasing non-GMO is a personal decision. The Non-GMO Project is an organization that certifies products as Non-GMO if the ingredients have less than 1% genetic modification. Just look up the non-GMO label. It will help you make an informed decision when you are buying fruits and vegetables for your kitchen.

To recap, seek out fruits and vegetables that are in season, grown locally, and are as fresh as possible. Look for USDA Organic and Non-GMO labels when you're shopping, and try out your neighborhood farmers market. If you're at a grocery store or chain, be mindful of where your produce is coming from, and when in doubt, just ask.

Now let's shift gears and talk about protein. To create a healthy kitchen, high quality protein is an important building block. Literally. Protein breaks down into amino acids, which helps our muscles build and stay strong. For a lot of people, the steak, chicken, or fish on their plate is the centerpiece of lunch or dinner, and eggs and dairy are refrigerator staples for many. To help you buy the cleanest options, let's take a closer look at some of the terminology used to describe different sources of protein.

For animals, such as cow, bison, goat, lamb, and sheep, there are several key terms to know. Pasture-raised refers to an animal that's free

to roam a natural environment and eat grass, plants, bugs, and any other food their bodies naturally adapted to digest. The opposite would be animals raised on industrial farms or feedlots with no access to a natural pastured environment.

Pasturing can reduce environmental damage and also produce certain nutritional benefits. For example, pasture-raised beef has been shown to contain more vitamins and healthier balance of omega-3 and omega-6 fats than conventionally-raised beef. Though there isn't a separate pasture-raised certification, meat with the USDA Organic label must have been given access to pasture and range land that accommodates the animal's natural behavior, such as grazing.

This brings us back to the term organic again. Like farms that grow produce, in order to use the Certified Organic label on meat, a farm must be certified by the US Department of Agriculture and meet strict standards regarding how the animals are raised. They must have access to environments that accommodate their natural behavior, such as pasture grazing. In addition, farmers can't give them growth hormones or antibiotics unless they're sick.

For beef, the cleanest, healthiest food source is grass. After all, grass is a part of a cow's natural diet. Grains such as corn and soybeans are not, even if they're organic. So you want beef that's grass-fed, not grain-fed. Look for the Grass-fed label, it means the animal ate grass. The tricky thing is, an animal can be referred to as grass-fed even if they were fed grains at a later time. It's called finishing or fattening up a cow on grains, like corn and soybeans, at the end of their lives. Grain finishing can cause grass-fed beef to resemble conventional feedlot beef.

So ideally, you want to look for the Grass Finished label. It means the animal was raised to maturity on grass and wasn't finished or fattened up with any grains. For reference, grass-fed/grass-finished cows take 24 to 36 months to reach maturity. Industrially-raised and conventional feedlot beef takes only 18 to 20 months. By choosing grass-fed and grass-finished, you'll reap the benefits of a mature, pasture-raised animal.

The American Grassfed Association certifies 100% grass-fed and grass-finished producers. Animals must be born and raised on US pasture, never confined to a feedlot, fed only grass and forage, and never treated with antibiotics or hormones. Producers are audited annually by independent third parties to ensure compliance with these standards. Look for the AGA Grass-fed label on beef, bison, goat, lamb, and sheep.

The diet of an animal also affects the nutrition of its dairy products. For example, grass-fed dairy can contain up to five times the amount of conjugated linoleic acid compared to industrially-raised or conventional feedlot dairy. What is conjugated linoleic acid? Also known as CLA, first, linoleic acid is the most common form of omega-6, and conjugated refers to the location of double bonds on the fatty acid strand. The healthiest dietary sources of CLA are ruminant animals like cows, goats, and sheep. Among other things, conjugated linoleic acid decreases inflammation, increases insulin sensitivity, and has also been linked to other health benefits, like weight loss. The bottom line is for both meat and dairy, try to source from grass-fed/grass-finished producers.

Another thing to be aware of when choosing dairy products is the difference between pasteurized versus raw or unpasteurized dairy.

Pasteurization is the process of heating dairy to eliminate microbes and other potentially harmful bacteria. For example, pasteurized milk is heated to 160 degrees for 15 seconds. Raw or unpasteurized dairy is not heated other than by the animal's natural body temperature, which is typically around 100 degrees. Although pasteurization won't significantly change what appears on a nutrition label, the downside is, it may kill helpful enzymes, result in nutrient loss, and be harder to digest. For these reasons, many in the health and wellness space choose raw or unpasteurized dairy.

However, it comes with the risk of bad bacteria and the potential for food-borne illnesses. Ultimately, it's a personal decision, so read the label and do a little research and weigh the pros and cons for yourself.

Next, let's talk about poultry. Similar to beef, it's preferable to buy pasteurized chicken and turkey. Pasteurized poultry is raised in a natural outdoor pasture environment, not confined indoors. The birds are able to roam and eat wild seeds, grasses, insects, worms, and other food they're naturally adapted to eat. This results in more nutritious meat and eggs. Certified organic poultry is also preferable. Again, to use the label, a farm must be certified by the US Department of Agriculture and meet strict standards regarding how the birds are raised. For example, they must have outdoor access and can't be given drugs, hormones, or antibiotics. They must also be fed a 100% organic which means their feed can't contain animal byproducts, antibiotics, or genetically engineered grains, and must be grown on a certified organic farm.

Two other terms you may have seen are free-range and cage-free. Free-range refers to a bird that's allowed to range freely outdoors at least 51% of the time. However, it doesn't mean that

the bird had access to grass or that it ate organic feed. Producers can label eggs free range simply by giving chickens outdoor access to dirt or concrete. Cage-free refers to birds that weren't caged and thus free to roam. However, it doesn't mean they were ever outdoors. It may mean they were only indoors-- in a barn or a warehouse. As a result, you can't always accept these labels as the be all, end all for eggs.

To recap, pay close attention to the labels on your meat, dairy, poultry, and eggs, they may start to add up. But to build the cleanest, healthiest kitchen, try to buy options that are pasture-raised organic, grass-fed, grass-finished, cage-free, and free-range. For dairy, be mindful of the difference between pasteurized and raw or unpasteurized, so you can make an informed decision.

Another clean and nutritious source of protein is seafood. Fish is also loaded with omega-3 fats-- the good fat-- as well as vitamins and minerals like selenium, niacin, phosphorus, magnesium, and vitamins B6, B12, and D. In order to purchase the cleanest, most eco-friendly seafood, start with the label. It should indicate the country of origin for both fresh and frozen fish. It should also specify whether the fish is wild, wild-caught, or farm-raised.

Wild fish are 100% wild. They are spawned naturally in the wild, lived in the wild, and caught in the wild. Their full life cycle takes place in their natural habitat, whether it's ocean, river, or lake. By contrast, wild-caught fish were only caught in the wild. They may have been spawned or lived part of their life on a fish farm before being returned to their natural habitat and later caught. Fish farming has grown significantly in the last several decades, and a large portion of the seafood today spend their entire lives in a

fish farm or fishery. Farm-raised fish are kept in pens, tanks, or ponds.

Due to the risk of pollution or disease, the fish may be fed antibiotics and pesticides may even be used. This has the potential to lower nutritional value and increase the presence of harmful chemicals. In light of these potential issues, the cleanest option for a green kitchen is to purchase 100% wild fish. To buy the most sustainable, environmentally friendly seafood, look for the blue label from the Marine Stewardship Council. To obtain a label, the fishery must complete a certification process and meet certain standards with respect to management and sustainability, factoring in the long-term viability of the species.

Another benefit of the label is traceability. Believe it or not, there have been instances of fish fraud in grocery stores and markets where less expensive fish is substituted for more expensive fish.

Protein is an essential macronutrient. We could spend a whole module and more on the nutritional science behind it, not too mention all the different sources. But for the sake of helping you start shopping for your kitchen, now you know some of the basic terminology that will empower you to make clean, healthy choices.

Next, let's turn to the pantry and refrigerator. These are two places where unhealthy snacks, sweets, and processed foods love to sit and wait for you-- the freezer too. But instead of giving you another lecture about all the things not to buy, we're going to focus on a few things to buy. Specifically, we'll highlight a few ingredients and dry goods that will help make meals and snacks healthier, including fats-- like cooking oils, nuts and avocados, whole grains, types of flour, and even sugars. And if you really need another lecture about why you shouldn't stockpile junk

food, here you go. Don't. Let's start with fats.

Fat is an important macronutrient. Fatty acids help our brain functioning, hormone production, and our immune system. Fat also helps slow our digestion and lengthen our blood sugar curve, which helps us keep from overeating. Despite what diets back in the '90s might have said, fat is indeed part of a healthy kitchen. One source of fat that we use in the kitchen all the time is cooking oil. Whether you're roasting, sauteing, or dressing a salad, cooking oils are essential to clean eating.

First, a little science. Every type of cooking oil has a different smoke point. The smoke point is the temperature at which an oil begins to smoke. Heating an oil beyond its smoke point causes it to oxidize or chemically react with oxygen, resulting in the release of harmful free radicals and other compounds. You don't want these in your food and you don't want to breathe them in. So don't heat above the smoke point.

Heat isn't the only thing that causes oil to oxidize. Light and exposure to the air will do it as well. This is why you want to store oils in a cool, dark place. Purchase oils that come in dark glass bottles and screw the lid tightly after each use. The bottom line is not to heat oil over its smoke point, and if you're cooking a high heat above 450 degrees, it's important to use an oil that is stable, meaning it won't oxidize easily.

In general, the higher the saturated fat in an oil, the higher the smoke point and the more stable it is. This is because saturated fats are made of single bonds that are resistant to heat, less reactive, and can stack tightly together.

On the other hand, oils with more unsaturated fat generally have a lower smoke point and are

less stable. This is because they are made of double bonds that are sensitive to heat, more reactive, and don't stack tightly together. So, for cooking oils, oils with more saturated fat are generally preferable to oils that are high in unsaturated fat, like monounsaturated or polyunsaturated.

OK. So what are some options to buy for a clean healthy kitchen? Coconut oil is quickly becoming one of the most popular cooking oils. With roughly 90% saturated fat, it has an average smoke point of 350 to 365 degrees. Coconut oil has several benefits. It contains a fat source called medium chain triglycerides, also known as MCT, which are converted into energy better than any other fat source. It also contains a fatty acid called lauric acid, which can improve cholesterol and help kill pathogens and bacteria.

A lot of people are back to cooking with animal fats. The key is to choose fats from animals that are pasture-raised, grass-fed, and grass-finished. The fatty acid profile of an animal depends on its diet, and these animals will have more saturated fat. Grain-fed animals will have more unsaturated fat, so they should be avoided.

One popular animal fat to cook with in the health and wellness scene is ghee. Ghee is clarified butter, meaning the milk solids like lactose, whey, and casein have been removed from the butter, leaving just the fat. Ghee has a high smoke point of 480 degrees and has other benefits as well. It contains vitamins A, E, and K2, and is rich in conjugated linoleic acid and butyrate, which may help lower body fat percentage and decrease inflammation. Ghee can also be purchased 100% lactose-free.

Avocado oil has grown in popularity recently as well. It has one of the highest smoke points at 520 degrees. It's higher in unsaturated fat, which

makes it a little less stable, but if you need to cook at a high heat, it's an option. On the plus side, avocado oil contains oleic acid, a healthy fat, as well as lutein, a carotenoid that can improve eye health and may lower the risk of age-related diseases.

Algae oil has come into use because of its high smoke point-- 480 degrees. However, like avocado oil, the trade-off is a higher unsaturated fat. Algae oil has a light neutral taste that doesn't overpower food flavor. It's also versatile and can be used for cooking, baking, and salad dressings.

The main staple of a clean pantry is olive oil. Olive oil is made of close to 75% monounsaturated fats and well-known for its heart healthy effects. The oleic acid found in olive oil can improve biomarkers, including raising good cholesterol-- known as HDL, and lowering oxidized bad cholesterol.

There are a number of different olive oils on the market. Extra virgin olive oil-- EVOO-- is perfect for dressings, provides high levels of nutrients and antioxidants, and has a smoke point range of 325 to 375 degrees. Refined olive oil will have a higher smoke point, as high as 425 degrees. Healthy oils that are comprised of polyunsaturated fats include almond oil, walnut oil, and flaxseed oil. These oils should be used occasionally and reserved as a dressing or a finishing oil, because they oxidize more easily.

Also, when purchasing, look for oils that are cold-pressed. It means that during the process of making the oil, the use of heat was minimized, so as to limit oxidation. For example, extra virgin olive oil is made using a cold press process.

There are several cooking oils to avoid, including as ingredients in the food you buy. These oils

are man-made industrial seed and vegetable oils, such as canola oil, sunflower oil, safflower oil, cottonseed oil, grapeseed oil, corn oil, soybean oil, and vegetable oil. These processed oils contain excessive amounts of omega-6 fatty acids, which can cause inflammation. And they're manufactured through chemical-heavy extraction processes that include bleaching, deodorizing, and other use of toxic solvents. Eliminating these oils from your pantry is a positive step towards a cleaner kitchen.

To recap, know the smoke point of the oil you're using and don't go above it. Some oil options to try out are coconut oil, ghee, avocado oil, and algae oil. Always have olive oil on hand too, and steer clear of man-made industrial seed and vegetable oils. They may have natural-sounding names, but they should be avoided.

Next, let's talk about some whole food fats to stock in your pantry. Whole food fats include things like nuts and avocados. These foods contain protein and carbohydrates as well, but a good reason to stock them is the fat.

For nuts, go raw and organic. Some good options are almonds, cashews, pecans, walnuts, macadamia nuts, Brazil nuts, and pistachios. To help keep them fresh and prevent them from going bad, store the bulk of them in the refrigerator or freezer. And simply pull out a few servings at a time into your pantry and take them with you. You can stash a small bag in your purse or carry-on for a flight or in a desk or at work.

As for avocado, it's great because of its versatility. It adds healthy fat to any omelet, salad, afternoon snack, and almost any dinner, even sushi.

One nut not mentioned above was peanuts-- because they're actually legumes. Legumes are seeds of plants from the legume family and

includes beans, peas, lentils, and peanuts. There is some debate about legumes in the health and wellness community. Some have claimed that they can be harmful because of the so-called antinutrients, which may interfere with digestion and the absorption of other nutrients. This is one reason some people have turned to almond butter over peanut butter.

Another reason is peanuts' proclivity to mold. They grow in the ground and float in their shell, which increases the chances of the growth of aflatoxins. As with anything, it's a personal decision. If you're going to stock legumes, go organic. And remember, they're not without nutritional value. For example, beans contain fiber, protein, iron, magnesium, potassium, and B vitamins.

Before we move on, one quick test. I said there wouldn't be a lecture, but one thing that shouldn't be in your clean, green pantry or refrigerator is food that contains trans-unsaturated fat, or trans fat. This is the so-called bad fat. Here's what to look for. If the label and ingredients says partially hydrogenated anywhere, steer clear.

Let's turn to whole grains, which can be an important ingredient in a pantry. Now, some of you may have raised an eyebrow to that. After all, grains fall in the carbohydrate category, they aren't fruits or vegetables, and some diets would have you eliminate them altogether. Addressing these points is outside the scope of this module, but suffice it to say that whole grains can indeed be a healthy component of your pantry.

Whole grains are what's known as a complex carbohydrate. They're complex because they're wrapped in fiber and take longer for our bodies to break down and digest. And that's a good thing. Slower absorption helps regulate glucose levels or blood sugar, helping balance us so

we don't have spikes and crashes and massive food cravings. Whole grains are also high and B vitamins, including niacin, thiamine, and folate; and minerals, such as zinc, iron, magnesium, and manganese. The fiber helps us detox, and together with magnesium, has been linked to decreased risk of type 2 diabetes.

Whole grains also contain antioxidants and phytochemicals that can help prevent disease. Whole grains have three parts-- the bran, the outer shell that contains fiber, minerals, and antioxidants; the endosperm, the middle layer that's mostly carbohydrates; and the germ or the inner layer, which contains vitamins, minerals, protein, and plant compounds. The germ is where gluten, gliadin, and wheat proteins are found.

Gluten-free food is everywhere these days, and it's considered a must by many in the health and wellness community. Gluten is a wheat protein for which the human body lacks an enzyme to break it down. As a result, some are allergic or intolerant to gluten. Celiac disease is an autoimmune disease of gluten intolerance, and those with it must eat completely gluten-free. Even the slightest cross-contamination can cause them health issues.

The research and literature in the scientific community is full of debate about the health effects of gluten. Controversy aside, sourcing gluten-free grains and food is relatively easy these days. Most grocery stores and big national chains have entire gluten-free aisles and sections. To start building a gluten-free pantry, here are a few gluten-free grains to try.

Amaranthe, a tiny seed-sized grain that has an earthy flavor. Brown rice is a rice with the whole still partially on and is higher in protein and fiber. Buckwheat, sometimes called kasha,

has a toasty, almost bitter flavor. Millet, a small grain with a sweet and nutty flavor. Quinoa is an ancient grain from South America that is a complete protein. Wild rice, a distant cousin of the white rice varieties. Sorghum, a drought-resistant crop from central Africa with a mild sweet taste.

But oats are tricky. Technically, all oats are gluten-free, including whole grain varieties like steel-cut or Irish oats. But often, they're contaminated with gluten because they're milled in the same facilities as wheat. Read the label to be sure.

For all the bakers out there, a key ingredient is of course flour. Flour is simply a powder created by grinding grain, and it's used to make things like bread, cake, pie crust, pasta, and pastries. Flour that's used in baking typically comes from wheat, but with the growth of the gluten-free movement, there's been an increased demand for gluten-free flours.

All of the gluten-free grains discussed can be milled into flour. In addition, gluten-free flour can be made from corn, rice, nuts, legumes, and even some fruits and vegetables. Whether you decide to buy wheat flour or go with a gluten-free option, try to buy organic and whole grain.

Let's briefly discuss sugars. Sugar comes in many forms, including raw or organic. At the end of the day, sugar is sugar. It's highly addictive and can lead to health problems, so it's important to be aware of what you're eating and limit your intake.

Sugars are made of sucrose. Without getting too technical, sucrose is a disaccharide that is made up of two monosaccharide molecules you've no doubt heard of before-- fructose and glucose. Fructose and glucose are digested differently by your body.

Fructose is a 100% metabolized in the liver. The metabolism of fructose results in waste products and toxins, which can drive up blood pressure and lead to gout. It can also cause liver inflammation just like alcohol. Long-term excess fructose consumption has been linked to insulin resistance, metabolic syndrome, and obesity.

Glucose elevates blood sugar and needs to be managed by the hormone insulin. Chronically-elevated glucose puts you at risk for metabolic syndrome, diabetes, heart disease, and possibly dementia. Excess amounts of fructose and glucose will be converted to and stored as fat, so consider keeping sugars to 5% to 10% of your daily caloric intake.

One sweet alternative to sugar is stevia. Stevia is a natural sweetener that is sugar-free and non-caloric. It's made from the leaves of the stevia plant and it doesn't raise blood sugar. Stevia can be used for baking and for sweetening up other things like your morning coffee.

Another potential alternative is monk fruit. Monk fruit is a zero-calorie sweetener that has been used for centuries in Eastern medicine. It's much sweeter than sugar, up to 300 times more. The FDA has recently given monk fruit GRAS status, meaning it's generally regarded as safe. It's currently being researched for phytochemical and anti-cancer properties and anti-inflammatory benefits.

In terms of liquid sweeteners, there are some that are more natural and minimally processed than others, including yacon syrup, honey, and maple syrup.

Yacon syrup contains fructooligosaccharides, which feed the friendly intestinal bacteria and help metabolism. For this reason, it has been studied for the beneficial effects on obesity and insulin resistance.

Though honey is made from a blend of fructose and glucose, it's touted for its antimicrobial and antibacterial activity.

Maple syrup is an unrefined natural sweetener that is a much better option than syrup made from high fructose corn syrup.

Steer clear of white table sugar. If you want a granulated sugar in the pantry, try coconut sugar, which is made from the sap of coconut trees. It's a less processed because the sap is extracted and then placed in heat to dry. Coconut sugar can also contain trace amounts of minerals, like magnesium and potassium and inulin, a prebiotic fiber.

Now you have some of the basic knowledge necessary to make clean, healthy decisions when you're shopping for your kitchen.