Webinar 6 Handout:

ORGANIC FOODS & OTHER LABELS

Reading food labels can be like trying to understand a foreign language (that you never learned) and not everyone has a pocket translator. Grocery shopping is an opportunity to take control of what goes into your body - it should be empowering *not* confusing or frustrating! You need to really get to know the food you eat before you buy it. Labels are more than just a name tag or a resume - they're a detailed biography of the life of your food so don't settle for the abridged version. The old saying goes "you are what you eat" and it's true. By understanding how your food was produced and where it came from you can navigate the grocery aisles like a pro and load up your cart with delicious foods that are healthy and safe for your body.

As a health professional, clients will come to you wanting to know exactly what foods they should buy and each client will have his/her own unique situation. The easy answer may seem to be "buy all organic food", or "don't eat packaged foods" but believe me when I say that clients want the specifics, which will vary from person to person. They will want to know what certain labels mean, why a food may or may not be good for them, and what exactly they should put in their grocery carts. As an expert you need to be prepared to answer consumer questions that come your way so that you can help your clients navigate their way to a more Nutritious Life.

General Definitions

Organic: The word "organic" refers to the way farmers grow and process fruits, vegetables, grains, dairy, and meat. To be certified organic, all produce must be grown without synthetic pesticides or fertilizers. Meat, poultry, eggs, or dairy products labeled organic are free of antibiotics or growth hormones. Regulations require that all organic foods be processed without irradiation (when food is treated with a small amount of radiation to eliminate germs and parasites) or chemical food additives, and they can't be grown from genetically modified organisms (GMOs). The term "organic" is regulated by the USDA, so true organic food has the green USDA label (on the next page). Before a product earns the label, a certifier must inspect the farm where the food is grown and make sure it meets all standards. Companies that handle or process organic food before it gets to supermarkets or restaurants have to be certified too. Keep in mind that this is a voluntary (and expensive) process, so sometimes smaller producers like local farms can actually be organic but not have the official seal. Unfortunately, there are also small producers that call themselves organic when they actually are not. They should not use the word or the seal.

If shopping at a farmers market, take the opportunity to speak with the farmer or representative about growing practices. In a grocery store, the produce manager can help you with any questions.

USDA Organic Seal Standards

- 100% Organic: made of only organic ingredients (allowed to display seal)
- Organic: at least 95% organic, but not necessarily 100% organic (allowed to display seal)
- Made with Organic Ingredients: at least 70% of ingredients are certified organic (not allowed to display seal but can list organic ingredients on front of package)
- Contains Organic Ingredients: less than 70% organic ingredients (not allowed to display seal but may list organic ingredients in ingredients list)

Organic food, especially produce, will be the healthiest, safest and best option for your body. To be fair, there are a few studies that show organic produce doesn't always have more nutrition than conventional produce - nutrient content is affected by so many other factors like geography, soil and climate - but some studies do point to organic food as the more nutritious option, and absolutely better for the environment. Research confirms that organic dairy products have significantly higher protein and omega-3 fatty acids than conventional dairy and have a higher omega-3 to omega-6 ratio; studies have found higher amounts of vitamin C in organic spinach, lettuce and chard versus the conventional leafy greens; and research has shown higher levels of phenols, a type of antioxidant, in organic fruits and vegetables.

In general, organic fruits and vegetables are higher in phytochemicals than their conventional counterparts because these compounds help protect the plant, and organic plants need to work a little harder because they aren't protected by conventional methods. It's important to remember that nutrient content isn't the end-all-be-all, and organic food also offers many other benefits for the environment and your body.

Natural: For meat, poultry and eggs, the term "natural" is regulated and means that the food is minimally processed and contains no artificial ingredients. However, there are no standards as to how the animals are raised or where they are kept. It also doesn't necessarily mean that there aren't any additives. Chicken breasts are often plumped up with added salt water and given "natural flavor" with sugar or lemon concentrate and will still be labeled natural - as long as the additives can be called natural, so can the chicken. Foods that don't contain animal products (like packaged crackers and cereals) are often labeled as natural, but in these cases there are no regulations for use of the word yet. Companies usually label products as natural if they are minimally processed and free from artificial ingredients like coloring or certain preservatives, but because it's not yet regulated there are no guarantees. In today's grocery aisles, natural has become more of a marketing tool. You'll see it all the time on products like potato chips, cookies and even cake mixes. In 2016, FDA decided to start working on a definition for the word "natural," but as of late 2017 the term is still undefined. At the very least, this triggered some companies to take the meaningless word off of their packaging. The takeaway here is that "natural" doesn't necessarily mean "healthy", and it certainly doesn't mean "organic."

Non-GMO: GMOs are all the buzz and you may have noticed the "Non-GMO Project Verified" label on some foods. GMO stands for genetically modified organism, which means it contains genetic material that has been altered in a way that does not occur naturally. This is usually done to give plants traits that will help them grow, such as resistance to pests or disease, or to give foods a higher nutrient content. For example, vitamin A can be genetically added to rice through a process of biofortification. This is different from the regular fortification that you find in cereals because it focuses on actually growing nutrient-enhanced foods, not just adding micronutrients to foods as they are commercially processed. It actually changes the genetics of the food. While this might sound like a good thing, several studies have suggested that foods made with GMOs may have toxic effects in the liver, pancreas, kidney and reproductive organs making it a very controversial technology. Numerous studies have demonstrated that GMO foods can cause tumors, harm the small intestine and digestive tract, increase free radical activity, and have negative effects on heart, adrenal, spleen and blood cells. However, the most dangerous effects are in the liver and kidney, the two detoxifying organs in the body, and GMO foods can lead to a condition called hepatorenal toxicity. Still, genetic engineering is widespread. About 88% of corn and 94% of soy grown in the U.S. are genetically modified (wheat has not yet been approved to be genetically modified), and though you may not be directly eating these foods, 60-70% of processed foods have ingredients made from GMOs. GMO corn is also a huge source for animal feed, causing them to show up in our meat and poultry supply. Other plants that are commonly grown with GMO seeds include sugar

beets, papaya and summer squash. Other GMO foods, including apples and salmon, may be in our future too.

Like the seal for USDA certified organic foods, a seal exists from the Non-GMO Project (a non-profit organization) and is used on products that are made according to consensus-based best practices for GMO avoidance. Unfortunately, testing for this is very difficult and risk of contamination is too high to ever reliably claim that a product is truly "GMO free." Products that have the seal meet strict requirements and are a pretty safe bet, but they do still have potential to be contaminated. The best way to avoid GMO foods is to buy organic, as organic foods are not permitted to contain GMOs or be grown from GMO seeds.

USDA Process Verified: This label basically ensures that all of the claims on food labels are actually true. It's a way for agricultural companies to assure customers that they can provide consistent quality products or services. Any agricultural company that has specified process verified points that are supported by a documented quality management system are eligible for this label. Essentially, they are asking the USDA to come check up on them so that they can market themselves as "USDA Process Verified." Approved companies can then make marketing claims associated with their process verified points – including age, source, feeding practices, or other raising and processing claims -- and use the label. While it may seem like it is good for health and safety, it's really just more marketing hype and is completely voluntary.

What to Buy (and What NOT to Buy)

Produce

Organic food can be expensive, and sometimes it just isn't possible to buy everything organic. You've probably heard of the Dirty Dozen, an annual list put out by the Environmental Working Group (EWG). This is a great tool for narrowing down your shopping list to what you really should buy organic. The list got its name because these 12 foods are the most contaminated when they are grown conventionally with pesticides. Pesticides are designed to kill living organisms, so it makes sense that they are harmful to consume. One insecticide called organophosphate has been shown to damage the nervous system by blocking an enzyme called acetylcholinesterase and exposure to this pesticide during childhood can lead to learning disabilities and impaired memory.

Every year, the EWG analyzes USDA data about pesticide residue and ranks foods based on how much or little pesticide residue they have. Typically, it's the fruits and vegetables with the softest skin that absorb the most pesticides. You can reduce exposure to pesticides by 80% by always going organic with these 12 foods. EWG also helped us out by making the Clean Fifteen. These are the foods with the least amount of pesticides, so if you can't buy everything organic, know these are the safest to sacrifice. Remember, EWG updates the list every year so keep up with the changes

Though there is some backlash that the methods for making these lists are flawed, I still think it's a useful tool if you want to buy organic produce but you need to make some compromises due to cost or availability. I also want to point out that in most cases, eating any produce is better than eating no produce at all. I'd say conventionally grown blackberries are a better snack choice than organic cheese crackers any day.

The Dirty Dozen and Clean Fifteen lists for 2017 are on the following page.

Nutritious Life Shopping Tip: Aim to buy all organic produce and always wash produce before you eat it even if it is organic. If you can't get everything organic, narrow it down to the Dirty Dozen. And if you can't remember the list, think about the skin. If it's soft and can absorb a lot of water, it can probably absorb a lot of pesticides. If it's hard and not eaten (like a pineapple), it's probably a safer bet. And remember, always wash all produce before eating it.

Dirty Dozen 2019	Clean Fifteen 2019
Strawberries	Avocados
Spinach	Sweet corn
Kale	Pineapples
Nectarines	Sweet peas (frozen)
Apples	Onions
Grapes	Papayas
Peaches	Eggplants
Cherries	Asparagus
Pears	Kiwis
Tomatoes	Cabbage
Celery	Cauliflower
Potatoes	Cantaloupes
	Broccoli
	Mushrooms
	Honeydew

Meat

Organic*:* Organic beef comes from cows that are allowed to roam and graze pastures for at least 120 days of the year (which means they're eating grass on those days); are given fresh air, water, and sunshine; and eat 100% organic feed (usually a mix of organic grains like barley and oats, corn, alfalfa meal, and vitamin and mineral supplements) without growth-promoting hormones, antibiotics, GMOs or animal by-products (including manure, same-animal meat and bone meal.) The USDA also requires the production and processing of organic beef to meet environmental and ethical standards for sustainability. Beef might be the most important protein to buy organic because non-organic cattle *can* be given growth hormones and antibiotics (on the other hand, even non-organic poultry is *never* given growth hormones.) Growth hormones like estrogen, testosterone,

or steroids are often given to non-organic cattle to speed up muscle growth, while antibiotics are used to keep animals healthy. There is a strong connection between some of the estrogen-like hormones given to cattle and cancer in humans, particularly breast cancer, and eating beef with antibiotics may lead to the development of antibiotic-resistant bacteria in people.

Grass-fed: Grass is the healthiest and most natural diet for cattle. Unfortunately, most cattle are fed grain and corn (usually GMO) because it's cheaper. Grass-fed beef is just what it sounds like! It comes from cows that get most of their nutrients from grass. Grass has a very healthy fatty acid profile (more omega-3s than omega-6s), while fats in the cereal grains like barley, maize, and sorghum and in cottonseed, all used in cattle feed, are mostly omega-6s and have few omega-3s (that's *not* a healthy profile.) So it makes sense that beef from grass-fed cows is higher in omega-3 fatty acids, which have protective effects like lowering blood pressure and cholesterol levels, suppressing inflammation, and improving brain function. Grass-fed beef is also lower in saturated fat, higher in precursors for vitamins A and E and cancer fighting antioxidants, and higher in CLA (conjugated linoleic acid) which has been shown to reduce risk of cancer, heart disease, and diabetes. The downside to grass-fed beef is that cattle can still be given antibiotics or hormones at some point, and it also doesn't necessarily mean that the animal was raised without some confinement.

Kosher: Kosher beef is produced following specific Jewish laws and under the supervision of specially licensed rabbis. Only certain cuts of beef can be certified kosher (the shoulder, the rib, the leg, under the rib and behind the leg) and beef can never be combined with other animal products. Kosher laws were created for religious purposes, not to produce safer or healthier food. However buying kosher beef ensures a certain safety in the product because animals are closely inspected for signs of disease and the entire butchering process is monitored every step of the way. Kosher beef may also be an option for an animal-loving meat eater, as Jewish laws ensure that animals are killed in the most humane way as possible.

Nutritious Life Shopping Tip: Think of grass-fed organic as the butcher shop gold standard. It's free of growth hormones and antibiotics, is higher in antioxidants and omega-3s, and is lower in saturated fat. If you can't get grass-fed organic and have to choose between the two, I say at least get grass-fed. The beneficial nutrients like omega-3s and CLA in grass-fed beef are lost in animals fed a non-grass diet, and while grass-farmers sometimes use fertilizer on their fields, they *usually* avoid the use of hormones or antibiotics in the cattle.

Poultry

Organic: When poultry is labeled "organic," it means that what the birds ate was organic: only organic feed (usually made from corn, alfalfa, wheat, and vitamin and mineral supplements) that was grown without artificial fertilizers or pesticides and of course no GMOs. The birds were also never treated with growth hormones or antibiotics (though they may have received vaccinations to prevent common diseases) and always had reasonable access to the outdoors.

Free-Range: Free-range birds live in a shelter with an unlimited supply of food and fresh water and continuous access to the outdoors. However, whether or not they actually go outside is up to the birds themselves. In reality, most stay close to water and feed, which is usually located indoors. This is about the animal, not the nutritional value.

Cage-Free: This means the birds can freely roam around a room or enclosed area and have unlimited access to food and fresh water. So they have space, but they may have never seen the light of day. Again, this is about the animal, not the nutrient content.

Farm-Raised: All chicken are raised on farms, so any chicken can have this label - it's more of a marketing tool. Usually if it's on a menu it means the chicken is from a local farm (but not always.)

Natural: "Natural" poultry has no artificial ingredients, added colors or chemical preservatives, and is minimally processed (just enough to get it ready to be cooked.) Most ready-to-cook chicken fits this label. But remember from before, this doesn't mean it doesn't have some additives, just that it has naturally occurring additives (like salt water, sugar or lemon concentrate.)

No Hormones Added: Despite what you may hear, growth hormones are never used in the production of any poultry in the US (not the same for beef.) So *any* brand of chicken can be labeled "Raised without hormones" or something like that. It's just a marketing gimmick. In fact, if a chicken has this label, there has to be a disclaimer that says no chickens are given hormones.

Raised Without Antibiotics: Growth hormones may be off limits for poultry, but antibiotics are fair game. "Raised without Antibiotics" means that the chicken was raised without the use of antibiotics for animal health maintenance, disease prevention or treatment of disease. These antibiotics contribute to the rise in drug-resistant bacteria which ultimately lead to sickness and even death. It's just like why you don't take antibiotics unless you're really sick. However, other health products (like coccidiostats, which control protozoal parasites) may still be used for animal health.

Air-Chilled: During processing, poultry is chilled to reduce microbial growth and promote food safety. This can be done by one of three processes: water chilling, air chilling, or evaporative air chilling. Water chilling has many downsides - there's potential for cross-contamination and it's a huge waste of water. The method is actually banned in Europe because of its cross-contamination potential, but it's still the primary method for chilling in the US because it's less expensive. Plus, when poultry is chilled in water a lot of the liquid is absorbed, which ultimately means you're paying for water when you're buying per pound. Consumer studies confirm that air-chilling is not only a cleaner and safer method, but yields a juicer, higher quality and more flavorful product.

All Vegetarian Diet: While this one may seem like a no-brainer (does a chicken ever sit down to a steak dinner?) the label actually has merit. Chicken feed can often contain animal by-products like fat, bones and gelatin, most of which is ground into a meal and put into feed to up the protein level. This sounds pretty gross and it is - it has health and disease risks for both animals and humans. Poultry labeled "all vegetarian diet" weren't given animal by-products with their feed.

Hand-Trimmed: This means that it wasn't mechanically separated. Mechanically separated poultry is made by removing meat from chicken or turkey bones using screens and filters to remove the bones. It's usually used in hot dogs and other processed meats and has to be specifically listed among the ingredients. "Hand-trimmed" means that the meat was deboned by hand, usually with a handheld knife. The two methods yield a very different product in texture and form. However, mechanically separated meat isn't sold directly to consumers (just in processed meats like hot dogs) so sometimes it's just used as a marketing technique.

Nutritious Life Shopping Tip: Go for organic. If that's not an option, at least shoot to buy poultry with "no antibiotics added."

<u>Milk and Dairy</u>

Organic: Organic milk comes from cows that are held to the exact same standards as cows raised for organic beef. They have year-round access to the outdoors, are never given growth hormones or antibiotics, and are fed only organic feed and grass from the pasture. Non-organic dairy products often come from cows treated with growth hormones. These hormones can be passed into the milk carton, into your glass of milk, and then into you. Organic dairy products may have some other health benefits as well. Organic milk has more omega-3 fatty acids than conventional milk and organic butter has twice the amount of furan fatty acids than conventional butter, which may reduce risk of Alzheimer's disease.

Grass-fed milk: Studies have shown that including grass in a cow's diet (as opposed to corn) can enhance the nutritional properties of its milk. Increasing grass in the diet decreases the total fat content while also changing the kinds of fats present: more unsaturated and less saturated. Same goes for butter made from grass-fed milk. People also tend to prefer the taste and sensory properties of butter made from grass-fed milk.

From cows not treated with rbST: About 17% of dairy cows are treated with the hormone rbST (also known as recombinant bovine somatotropin, Sometribove, recombinant bovine growth hormone, or rbGH). Bovine growth hormone (bGH), also called bovine somatotropin (bST) is a naturally occurring hormone in cows that is essential for growth and development, but rbST/rbGH is made in a lab and injected into cows in high doses in order to increase milk production. Milk that comes from cows that have been given this hormone has elevated levels of insulin-like growth factors (IGF-1), which are associated with an increased risk of cancer in humans. There is controversy with this label because some argue that there is really no way to tell the difference between naturally occurring bST and laboratory-made rbST in milk. However, milk from cows that have been treated with rbST does have increased levels of IGF-1 and other compositional differences.

Pasteurized: Pasteurization is a process that kills harmful bacteria by heating milk to a specific temperature for a set period of time. Pasteurized milk is heated to 161 degrees F for at least 15 seconds or 145 degrees F for at least 30 minutes, while ultra-pasteurized milk is heated to 280 degrees F for a minimum of 2 seconds. "Pasteurized" is not the same as "homogenized" which is when milk is mechanically treated with high pressure in order to keep the milk fat from separating out and floating to the top. Homogenization has nothing to do with safety, just taste. Raw milk hasn't been pasteurized (heated) and can therefore carry harmful pathogens like *Salmonella*, *E. Coli* and *Listeria*. CDC reports that raw milk is 150 times more likely to cause foodborne illness.

Advocates of raw milk believe the drink is more nutritious, though studies have shown that the overall effect of pasteurization on milk's nutritional value is minimal; the nutrients that are affected (vitamins B1, B2, B12, C and E and folate) are naturally low in milk anyway. Despite concerns over foodborne illness, the popularity of raw milk, especially raw goat milk, is growing. Be prepared to discuss risks with clients. Most food safety experts believe the risks of raw milk outweigh the benefits and that an overall healthy diet will include any nutrients that may be lost in pasteurization. Some people believe that homogenization can contribute to heart disease, diabetes, and other chronic diseases by enhancing the absorbability of an enzyme in milk called xanthine oxidase (XOD) which results in higher blood levels of XOD after consumption that can increase inflammation. However, experimental evidence refuted this myth long ago. Most milk sold in grocery stores has been pasteurized and homogenized, though one can exist without the other.

Nutritious Life Shopping Tip: Grass-fed milk is the best bet but harder to come by, so organic is what I suggest for most people. If you can't find organic (though it's pretty common these days), at least get milk labeled "rbST-free."

Eggs

Organic*:* For eggs, the USDA organic seal refers to the way the hens who laid the eggs are kept and fed. The seal verifies that "producers met animal health and welfare standards, did not use antibiotics or growth hormones, used 100% organic feed, and provided animals with access to the outdoors," although the amount of time and quality of access isn't specified. It also doesn't specify what the feed is, just that it's organic, so it's probably a mix of organic grains, not grass. Remember, grass is where the most nutrients are.

Free-range/ Free-roaming: Free-range birds have continuous access to food, water, and the outdoors. However, there are no quality standards for what that outdoor area must be like (meaning it may just be a cement lot) and there are no restrictions regarding what the bird needs to be fed.

Pastured: This means that the birds are allowed to roam in pastures, so they're eating a diet higher in grass. It's the same idea as grass-fed beef: because of their diet, the eggs they lay are lower fat and cholesterol and higher in vitamin A than those that are strictly grain-fed.

Omega-3 fortified: Eggs can be fortified with omega-3 fatty acids by supplementing the diets of the hens who lay them with fish oils, flax seeds or microalgae. Though there are still questions about

how the different forms of omega-3s are transmitted to the eggs, it's still a great way to get more omega-3s into your diet, and the only downside would be the extra cost. They can be labeled as "fortified" or just "with omega-3s."

Nutritious Life Shopping Tip: For the most nutrient-dense egg, buy the pastured. Better yet, get pastured organic. If you can't find pastured I recommend omega-3 fortified organic eggs.

Fish

Organic: The seafood industry does not have a regulated label for organic fish because not all fish can be held to the same standards. It would be pretty tough to completely control the natural environment in the ocean. You may still see "organic" on seafood labels, but it's not regulated by the USDA like other foods are. Labels that say "organic farm-raised" mean the fish was raised on a farm, given organic feed, not exposed to pesticides or chemicals, and wasn't genetically altered. But because wild fish can't possibly be held to these standards, the USDA doesn't recognize any fish as organic and the label probably came from a private company.

Wild: According to U.S. law, wild fish are "naturally-born or hatchery-raised fish and shellfish harvested in the wild." This means they're eating a natural diet and won't be given antibiotics or other unnatural treatments. However, that doesn't mean they're completely free of pollutants. Mercury is a naturally occurring element in the environment, but levels of it in the ocean have skyrocketed due to industrialization, and mercury levels in wild fish are a big consideration. Older and bigger fish tend to have the highest mercury levels. Long-term exposure to mercury can have damaging effects on the nervous system and is of particular concern for children and pregnant women.

Farmed or Farm-Raised: About half of the seafood eaten worldwide is farm-raised, a process also known as aquaculture. There are a couple of different techniques for raising fish, but basically fish are raised in tanks, nets, or other kinds of enclosures. Aquaculture is done in order to meet the growing demands for fish worldwide. Sometimes seafood is farmed under regulations that protect the health of the people who eat it and the environment around it; however, sometimes it isn't. Sometimes farmed fish are given food that they would naturally eat, but usually farmed fish eat a diet high in GMO corn and soy. They can be given antibiotics and are often treated with dyes to keep them looking fresh in stores. Remember, you are what you eat! Farmed fish are generally less nutritious than wild fish. According to FDA studies, farmed fish are higher in fat and contain twice

as many omega-6 fatty acids, while wild fish can be about 20% higher in protein and 20% lower in fat.

Sustainable: Sustainable fish are wild caught or farmed in ways that don't hurt the environment. Nearly 85% of the world's fisheries are either overfished or fished to capacity which can have long term negative consequences for the environment, but there are fisheries out there who are catching fish in a sustainable manner. This means that wild populations have time to naturally replenish themselves. Buying sustainable seafood helps keep a diverse and healthy ecosystem.

Nutritious Life Shopping Tip: Buy sustainable seafood to help protect the environment and get sustainably caught "wild" whenever possible. Shop from a trusted fishmonger who can tell you where the fish came from. Other considerations when it comes to fish are levels of mercury and PCBs. To keep up to date on what fish are safest to eat, download the Pocket Guide from seafoodwatch.org. Remember, both the type of fish and where it's from play a role in the safety of it. As of July 2017, the Super Green List (which is a list of fish that are safest to eat based on mercury content, omega-3 levels and sustainability) includes Atlantic mackerel, pacific sardines, freshwater coho salmon (farmed), and wild-caught salmon from Alaska. Other good choices were albacore tuna and black cod. In general, avoid fish from Thailand, Japan, and China; bluefin tuna; and Atlantic salmon from outside the U.S. United States fish is generally a good option, but over 90% of the seafood we eat in the U.S. is imported from other countries.

Breads

Before we get into specifics, let's learn the basics. Bread is made from flour (usually; there are unique breads these days) and flour is made from grains. Grains are the seeds for certain plants (mostly large cereal grasses such as wheat) and have the ability to sprout new plants. There are three parts to a grain: the bran, the germ, and the endosperm. The bran is the outer skin that protects the grain and is packed with antioxidants, B vitamins, and fiber. The germ is the embryo and also contains B vitamins as well as protein, minerals, and healthy fats. The endosperm, which is the largest part of the grain, acts as the food supply for the germ. It holds the starchy carbohydrates, a little protein, and small amounts of vitamins and minerals. All parts are edible, but the bran and the germ are where the real nutrition - vitamins, minerals, and fiber - lay. The Whole Grains Council, a non-profit consumer advocacy group, has an official packaging symbol called the Whole Grain Stamp (on the following page) that helps consumers find real whole grain products. The 100% Stamp means that a food contains at least one full serving of whole grains in each serving of the product and that ALL

the grain is whole grain, while the basic Whole Grain Stamp is on products with at least half a serving of whole grain per labeled serving. Not all whole grain products will have the stamp, but it is a helpful guarantee for products you may be unsure about.

White: White flour is made from refined grains, meaning the bran and germ are stripped off leaving only the endosperm. Without the bran and the germ, the grain loses about 25% of its protein along with at least seventeen key nutrients including vitamins, minerals and fiber. White bread can be enriched with vitamins and minerals, but the law only requires that iron and 4 B vitamins (riboflavin, niacin, thiamin, and folic acid) are added back to the flour so it's still lacking in fiber, trace minerals, antioxidants, and phytonutrients lost during processing.

Wheat: This is where it gets tricky. Wheat bread seems like a smart choice, but breads simply labeled "wheat" likely aren't *whole* wheat with *whole* grains and are likely missing part of the grain. If the ingredients don't list whole grains, the bread is missing key nutrients and may not even be a better choice than white bread. Just because the bread is brown doesn't mean it's healthy - it might just have caramel coloring to give it that healthy look. Check the ingredients before you buy and opt for "100% whole wheat" when possible.

Whole Wheat or Whole Grain: These terms are very similar - the grains are kept intact (whole), so you get the bran, germ and endosperm and therefore all key nutrients. However, this label can be deceiving. You can buy something labeled whole wheat or whole grain that indeed has *some* whole grains, but it could also be mostly non nutritive filler. Again, look for "100% whole wheat" or "100% whole grain" when possible.

White Whole Wheat: White whole wheat flour is made with white wheat, which is different than the red wheat used to make traditional whole wheat bread. White wheat is lighter and milder in flavor and lacks the genes that give red wheat its color - like an albino wheat really. It may sound contradictory to say white whole wheat, but it really isn't - white whole wheat flour including the bran, germ, and endosperm of the wheat is in fact whole wheat. This means it's nutritionally similar

to regular whole wheat bread and is a good option for people who prefer the look and taste of white bread.

Multigrain: Another tricky one here. This term can describe a mix of several whole grains, a mix of several refined grains, or a mix of both, so it doesn't guarantee that whole grains are present. In this case the Whole Grain Stamp is a helpful indicator of what's in the bread. Also look to the ingredients label - the first thing listed should be a whole grain. And don't be duped by color!

Seven Grain: This label alone is not a guarantee - you have to look for the ingredients label or for the Whole Grain Stamp. The first thing listed on the label should be a whole grain. Same goes for 14 grain, 15 grain, or any other number of grain bread - they're not whole unless they say they're whole.

Sprouted: Think of grains like seeds waiting to sprout new life. Grains won't sprout until the temperature and conditions are right, and they're usually harvested before this happens. But if a grain is left to sprout, the process breaks down the endosperm into simpler, more digestible molecules for the new plant to use for energy. These are the grains used in sprouted bread. Proponents of sprouted grains believe that this means the food is more easily digested by people and may even increase the bioavailability of vitamins and minerals in the grain. However, there is not a lot of evidence to support many claims of sprouted grains. But what we can say is that sprouted grains are indeed whole grains, so in the grand scheme of things they can be a good choice.

Nutritious Life Shopping Tip: Stick with whole grains - key word being whole. Read the ingredients list to make sure that a whole grain is the first thing listed, and look for the Whole Grain Stamp as a guarantee. Many packaged breads also come packed with added sugars and additives, so be sure to check the ingredients list for these things as well.

Packaged Foods

Organic: When it comes to packaged foods, it's all about the ingredients list. Organic products will have a more natural list and will be free of artificial sweeteners and other unnatural additives. Always choose products with a short list of ingredients that you can understand. Buying organic also helps preserve the environment and keeps ethical/sustainable practices in your food supply. But remember, a cookie is still a cookie even if it's organic. Though organic products are usually a smarter choice for indulgence than other items out there, "organic" doesn't always equal "healthy," "free pass" or "all you can eat".

Natural: With packaged foods, this means very little from a health perspective right now. Remember, the term "natural" is only regulated for meat, poultry and eggs. As of late 2017, FDA is still working on a definition for the word. On packaged products, companies usually use this word if the product doesn't have artificial ingredients. But that means sugar, white flour, butter and salt are all fair game. Take natural potato or veggie chips for example. Yes, potatoes, vegetables, salt and oil are all natural things, but when you fry them up together you don't exactly get a healthy food. Again, use the ingredients list and nutrition panel to select products. Even when FDA comes up with a definition, it probably won't guarantee the food is a nutritious choice.

BPA: Bisphenol A, aka BPA is used in the production of plastics and resins. You find it in food containers and water bottles as well as packaging. While the Food and Drug Administration has deemed BPA to be safe because very little actually leaks into foods (yes, there have been hundreds of studies), we know that exposure to BPA is concerning because it has been shown to have behavioral implications, toxic effects on the brain, and toxic effects in the prostate glands of fetuses, infants and children. Try to avoid all food containers that are made with BPA, and encourage reusable containers. Look for BPA-free canned goods and water bottles, but note that BPA substitutes like BPS are harmful as well. Do not heat plastics in the microwave as this breaks down the BPA. Most plastics with a recycle code 3 or 7 will contain BPA, so steer clear of those in particular. Glass is always the best option for food packaging or storage.

Nutritious Life Shopping Tip: Think outside of the box - literally. Load up your grocery cart with fresh fruits and vegetables, lean meats and low fat dairy first. Your whole grains will usually come from packaged items like whole grain pastas, quinoa and whole wheat bread so look for organic brands and read that ingredients list before adding it to the cart. Some goes for any packaged "indulgence" foods. Organic is better, but you still need to indulge consciously.

Now that your clients are armed with the knowledge of what the words at the supermarket mean, they can make well informed decisions about what they eat. When confusion prevails, take a minute to do some quick research knowing that often the labels reflect marketing and not true nutrition information. Or better yet, choose foods that don't even have a label! Feeling good about the choices you make is the key to success, so empower your clients to push a grocery cart with confidence!