



1•1•1 SIGNALS

ON THE HOUSE

The scoop on wellness

MILK

MILK!

Before reaching for that bottle of milk at the supermarket, it's important to know how milk is produced and processed.

Let's make sure we all understand what these terms mean.

Lucky for us, this information is already available, **you just need to know the details to make informed choices so you can grab the right bottle!**

WHAT TO LOOK FOR WHEN BUYING LIVESTOCK MILK

3 KEY TIPS

1



HOW IS THE MILKED COW BEING FED?

There are different systems of feeding cattle in animal husbandry, which may have different advantages and disadvantages.

2



IS THE MILK PROTEIN ALTERED?

Alterations are needed to produce: skim milk, also when pasteurized and homogenized, for example.

3



HOW IS THE MILK PACKED?

Yes the packaging is key!
Hint - No plastic, no Tetra Pak
Yes glass

1

Unprocessed, **RAW MILK** from pasture-fed cows can contain **vital nutrients** like:

- Fat-soluble vitamins A and D
 - Calcium
 - Vitamin B6,
 - Vitamin B12
- Conjugated linoleic acid (a fatty acid)

These valuable ingredients are naturally occurring in grass-fed beef & milk. This can be measured in a food testing laboratory.

Because grass-fed raw milk is so much more nutrient-dense, it doesn't need to be reinforced with synthetic Vitamins like D or E that can be used as generic, catchy names to hide gnarly chemicals, bad fats and even addictive MSG.

WHY IS GRASS-FED IS NOT A FAD AND WHY IT DOES MATTER?

Grass-fed, raw milk may even **reduce body fat** or **protect against cancers**, although this subject is more complicated because our genetics and microbiome also play a role in whether drinking milk is beneficial or harmful to each person.

Grass-fed milk contains higher levels of omega-3s and conjugated linoleic acid (CLA), both tied to brain health and reduced systemic inflammation. Less inflammation in the body means less inflammation in the brain. This is where nutrition meets cognitive performance.

Raw, grass-fed milk is a source of **complete protein** (non-modified) and is loaded with **naturally occurring enzymes**. Additionally, raw milk contains **beneficial bacteria** that protects against pathogens and fermenting milk can contribute to healthy flora in the intestines.

The wise, old traditions around the globe of **culturing raw milk greatly enhances its probiotic and enzyme content** and can make it a therapeutic food for some people's digestive system and overall health. On that note, did you see our kefir recipe [post on instagram?](#) This is an easy way to culture your raw milk at home!

What's done to big commercial dairy factories is gnarly and not the scope of this guide. However, it's important to mention **how vital it is for you to know if the cows were treated with antibiotics and hormones**. An organic certification covers this! If you purchase organic milk, you know you won't be getting hidden antibiotics and hormones.

IF YOU DRINK MILK, ALWAYS CHOOSE ORGANIC.

If by any chance you are concerned about the safety of raw milk, please read [this phenomenal article](#).

2



THIS IS A POINT OF CONCERN BECAUSE THE MILK PROTEIN GETS ALTERED ON MOST COMMERCIAL MILK...

If you're a person reacting to this milk, **you don't know if you're reacting to milk or to the alteration.** While there are lots of people that have intolerances, allergies or sensitivities to milk, some people find that when they drink organic unprocessed milk and cheeses made from organic, raw, grass-fed milk, they don't suffer.

ABOUT PROTEIN ALTERATION

PASTEURIZATION

Lori Lipinski writes for the [Weston Price Foundation](#). She wrote the following on **pasteurization**: “Pasteurization is a process of heat treating milk to kill bacteria. Although Louis Pasteur developed this technique for preserving beer and wine, **he was not responsible for applying it to milk.** That was done at the end of the 1800s as a temporary solution until filthy urban dairies could find a way to produce cleaner milk. But instead of cleaning up milk production, dairies used pasteurization as a way to **cover up dirty milk.**”

“To pasteurize or not to pasteurize”... can be the topic of many heated conversations and we aren't going to dive into that debate right now. We do want to mention that **Standard pasteurization heats milk to 161°F for 15 seconds (HTST). Ultra-pasteurization (UHT) pushes it to 280°F or higher. Heat doesn't just kill bacteria. It denatures whey proteins, destroys heat-sensitive vitamins like B12 and folate, and eliminates lactoferrin and immunoglobulins, the immune-supporting compounds naturally present in raw milk. Ultra-pasteurization is the most aggressive version and causes the most damage. This is why shelf-stable milk in Tetra Pak containers is the most altered form you can buy.**

You can draw your own conclusions or head over to Dr. Katie Reid's [website](#) to read more about this! **But when milk is heated certain amino acids separate from the protein molecule.** This means that you're drinking milk with loose amino acids that may be powerful neurotoxins, like glutamic acid.

Additionally, the anti-microbial and immune-enhancing components found in raw milk, are greatly reduced by pasteurization, and completely destroyed by ultra-pasteurization.

2



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ABOUT PROTEIN ALTERATION

HOMOGENIZATION

Homogenization is an alteration to avoid at all cost!

Lipinski explains it simply: "Milk straight from the cow contains cream, which rises to the top. Homogenization is a process that breaks up the fat globules and evenly distributes them throughout the milk so that they do not rise. **This process unnaturally increases the surface area of fat exposing it to air, in which oxidation occurs and increases the susceptibility to spoilage. Homogenization has been linked to heart disease and atherosclerosis.**" Make sure to choose milk that is non-homogenized.

OTHER ALTERATIONS ADDED TO YOUR MILK

- **Powdered skim milk** is a source of dangerous oxidized cholesterol and neurotoxic amino acids. It's added to both 1% and 2% milk.
- **Low-fat yogurts and sour creams** may contain **mucopolysaccharide**, the mucous secretions of salivary glands, which helps to thicken them and give them body.
- Often in low-fat dairy products, **the fat is extracted and replaced with sugar or cheap vegetable oils...**
- Butter from hay-fed cows is pale so **colorings must be added** to make it look like vitamin-rich butter from grass-fed cows.
- **Bioengineered enzymes** are used in large-scale cheese production. This is much different than the naturally occurring enzymes in grass-fed dairy.

2



THIS IS A POINT OF CONCERN BECAUSE THE MILK PROTEIN & FAT GETS ALTERED ON MOST COMMERCIAL MILK...

If you're a person reacting to this milk, **you don't know if you're reacting to milk or to the alteration.** While there are lots of people that have intolerances, allergies or sensitivities to milk, some people find that when they drink organic unprocessed milk and cheeses made from organic, raw, grass-fed milk, they don't suffer.



LABELS MATTER

When purchasing dairy, remember, **low fat and skim options are a processed food.** If you can eat dairy and aren't sensitive to it, choosing whole, organic options are usually the better choice!

A good rule of thumb is to look for products that have a single ingredient! Avoid those "extra" additives, preservatives and potentially harmful ingredients.

[Instagram post: @allblacksheep_club](#)

3



HOW IS THE MILK
PACKED?

THE IMPORTANCE OF PACKAGING

When processed into **plastic bottles**, the proteins in milk act like a sponge absorbing all the **hormonal disruptors present in the plastic**. While the milk is sitting in the cooler waiting for you to purchase it, endocrine disrupting chemicals from the plastic are seeping into the milk... **so milk should be bottled in glass!**

The second best option would be a paper carton. But beware because there is often still a plastic or wax lining on the inside of the cartons.

CHOOSE GLASS WHENEVER POSSIBLE, IT MATTERS!

CAN YOU REALLY DIGEST MILK?

Legitimate sources can't agree on the precise percentage of people that can't tolerate milk.

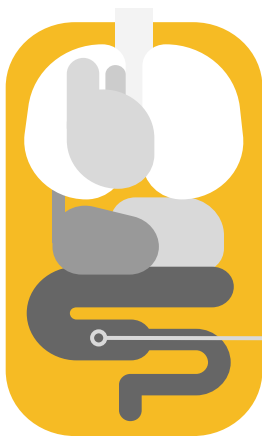
For example, **The U.S. National Library of Medicine states that an estimated 65 percent of the worldwide population is lactose intolerant**, meaning they have an impaired ability to digest lactose, a sugar found in milk and other dairy products. **Some communities may have an even higher risk of lactose intolerance.** It is also believed that more than 70 percent of people of East Asian descent are lactose intolerant.

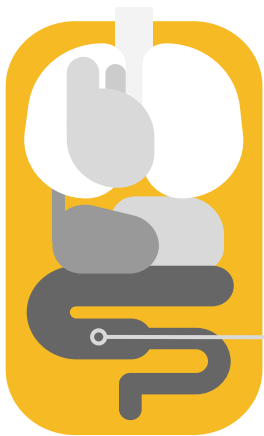
Symptoms of lactose intolerance include abdominal pain, bloating, flatulence, nausea, and diarrhea within 30 minutes to 2 hours of consuming dairy products. Genetic testing can assist in determining if you have the gene(s) associated with lactose intolerance.

Lactose can be isolated/extracted from milk, but bear in mind that the commercially available lactose-free milks have an altered protein and might be causing some neurological toxicity... so further experimentation might be needed to see if lactose-free milk is contributing to additional health complications. Again, the resources on Dr. Katie Reid's [website](#) are available to you and are of great value! Here's what's changed since I first wrote this. A 2016 randomized controlled trial in China (Jianqin et al., Nutrition Journal) tested 45 adults, 23 of whom were classified as lactose intolerant. When participants drank conventional A1/A2 milk, both the lactose-intolerant and the lactose-tolerant groups experienced GI symptoms, slow intestinal transit, and measurably slower cognitive processing speed and accuracy. When the same people drank milk containing only A2 beta-casein, the symptoms largely disappeared. Translation: a significant portion of people who think they're "lactose intolerant" are actually reacting to the A1 protein, not the sugar.

Or, you might not have lactose intolerance, but **may have a true allergy**. Milk, one of the most common food allergens can be associated with symptoms such as **hives, vomiting, stomach upset, bloody stools and anaphylaxis** (a potentially life-threatening reaction that typically occurs within seconds or minutes after exposure to an allergen). An allergy is an IgE type of immune response and is often identified via skin-prick testing or a blood test. **It is critically important for anyone with an allergy to dairy to avoid it completely.**

A dairy sensitivity is another type of immune response, it is called an IgA or IgG immune response to one or more of the peptides (protein fragments) within milk. Food sensitivities are identified through blood tests and have been linked to a myriad of health symptoms including, but not limited to **congestion, bloating, diarrhea, constipation, acne, skin rashes, headaches, fatigue, runny nose, allergy-like symptoms, and joint pain, increased risk for Type 1 diabetes, and neurological autoimmunity**. A dairy sensitivity is associated with increased inflammation. Those with a dairy sensitivity may benefit from eliminating dairy from their diet for a period of time to see if their symptoms resolve.





WHY MILK AFFECTS HOW YOU THINK

Your brain is 2% of your body weight and consumes 20% of your energy. It is also the most oxidatively stressed organ you have. Every decision you make runs on neurons that need fuel, antioxidants, and a quiet inflammatory environment to function at peak.

Milk, done right, supports all three. Milk, done wrong, sabotages them.

Three mechanisms connect dairy to cognitive performance:

Gut-brain axis: 90% of your serotonin and a significant portion of your vagal nerve signaling originate in the gut. A gut irritated by A1 beta-casein is a brain operating with static on the line.

Oxidative stress: Glutathione is your brain's master antioxidant. A1 milk suppresses it. A2 milk supports it.

Opioid receptor activity: BCM-7 binds to the same receptors involved in attention, memory, and mood regulation. Chronic low-grade activation is not neutral.

If you drink milk daily and you think for a living, this is not a wellness question.
It is a performance question.



TYPES OF COW MILK

A1 vs. A2



Not all cows' milk is created equal. Due to a mutation that historians believe originated in Europe thousands of years ago, different kinds of cows produce **milk that contain varying forms of the milk protein 'casein' in their curd (milk solids).** Milk is composed of proteins like casein and whey, lactose (a sugar) and dozens of specific enzymes and fat. Each type of milk has its own composition.

A1 and A2 are a specific casein protein found in cow's milk, in different proportions depending on the breed of cattle that you are milking. It can get quite technical, as in the positions of the amino acids in the protein itself. But that would just over complicate this guide... we can leave that topic for a day we feel like really nerding out on milk!

Casein is one protein family in milk that may cause digestive trouble for many people. Because the casein concentration varies among different breeds of cow, with some breeds having very little to no A1 casein at all. Casein makes up about one-third of all the proteins in our mama's milk, but when it comes to cow's milk, we are talking about 80% of the proteins. A lot more casein that we are designed to drink....

Most milk contains both A1 and A2 casein, but A2 milk only contains A2 casein. A2 milk is often "marketed" as a healthier choice than regular A1/A2 milk. Data only suggests this but it's not conclusive, although there are plenty of anecdotal reports that suggest that A2 milk can be easier to digest. The debate about the potential health effects of A1 and A2 milk is ongoing.



A1

A1 BETA-CASEIN.

Milk from breeds of cow that originate in northern Europe is generally high in A1 beta-casein. Research suggests that A1 beta-casein causes adverse digestive symptoms in certain individuals.

The A1 breeds include Holstein, Friesian, Ayrshire, and British Shorthorn.



A2

A2 BETA-CASEIN.

Dairy from cows that naturally only produce the A2 casein protein. **The A2 cow breeds include Guernsey, Jersey, Zebu, Gir, Sahiwal, Rathi, Hariana, Charolais, and Limousin cows.**



A1



A2

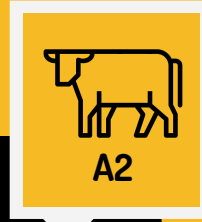
What we now know (the science caught up)

When you digest A1 beta-casein, your body releases a peptide called BCM-7 (beta-casomorphin-7). BCM-7 is a mu-opioid receptor agonist, meaning it binds to the same receptors as morphine and endorphins, though far more weakly. A2 beta-casein does not release meaningful amounts of BCM-7.

Why this matters for your brain and body: **1.** Gut inflammation and slower transit. Multiple RCTs (2016-2025) show A1 milk increases gut inflammation markers and slows intestinal transit compared to A2. **2.** Reduced glutathione, your master antioxidant. A 2016 study (Deth et al.) showed A1 milk suppresses glutathione production; A2 milk raised it. Glutathione is especially important in the brain, where it protects neurons from oxidative damage. **3.** Measurably slower cognition. The same RCTs that measured gut symptoms also measured cognitive processing speed and accuracy. A1 milk consistently performed worse. **4.** Altered gut microbiome. A 2025 PLOS One study showed A2 milk favorably shifted gut bacteria (increased Bifidobacterium longum, linked to reduced stress response via the gut-brain axis).

The debate about whether A1 causes diabetes or autism is still ongoing. The debate about digestive discomfort, inflammation, glutathione, and cognition is not. A2 wins, consistently.





YOU MIGHT WANT TO TRY:

1. Switching to organic, raw, pasture-raised, in glass bottle milk
2. Switching to A2 dairy
3. Testing for intolerances, allergies and genetic sensitivities to dairy
4. Eliminating dairy to see if your symptoms resolve. It is good to know that most people need to remove it completely from their diet for at least 30 days to notice a connection with symptom relief.
5. If you notice brain fog, sluggishness, or slower thinking after dairy, treat it as data. It's not in your head. The gut-brain axis is real, measurable, and well-documented. Try A2, raw, or goat/sheep milk for two weeks and notice the difference.

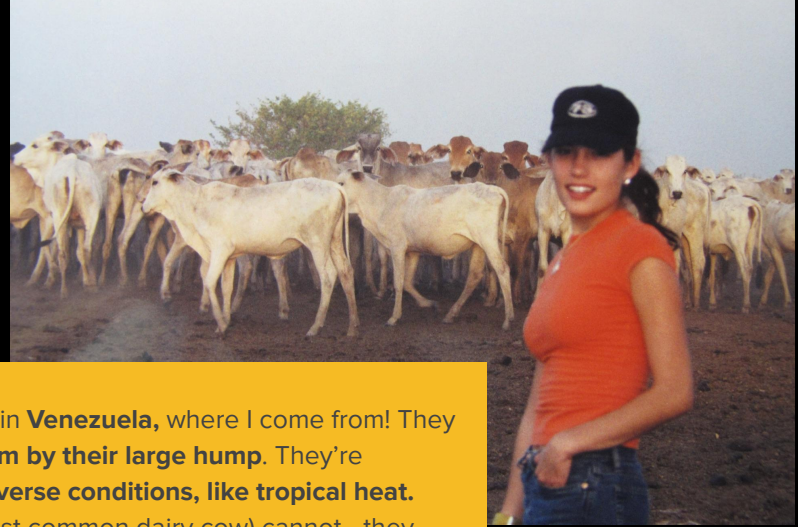


ZEBU COWS

Also known as humped cattle, zebus are bovine mammals commonly found in **Venezuela**, where I come from! They are wide-spread through **India, Brazil, and China**. **You would recognize them by their large hump.** They're popular because these cattle **have the ability to adapt and thrive under adverse conditions, like tropical heat.** The Holstein breed (the iconic black and white cow kids like to draw, the most common dairy cow) cannot - they need colder climates.

Zebu milk has a high solid content, but the composition varies widely as they cross breed, and there's no known nutritional edge over conventional cow's milk. **I can however attest to the intense flavors of the wide array of white cheeses that are made in my country... all crafted with Zebu cattle milk!**

Regardless of what breed of cow milk you are currently drinking, overall, cow milk is far from being the only source of dairy we have available. Remember, when sourcing your milk, regardless of the animal source, try to abide by the recommendations on the milk spectrum cheat sheet. **Let's take a look at what else is out there...**





**LIVESTOCK MILK ALTERNATIVES
FOR THOSE GREAT MILK MUSTACHES!**

CAMEL MILK

Yeah.. the cute guys with the humps! If you've followed me long enough, you know I love this one and I always share my son's jaundice story!

For ages, camel milk has been a great dietary support for millions of people, especially where climates are harsh and water is scarce, like deserts. Camels provide milk with serious **nutritional value that you can't overlook.** It has a sweeter taste than you might expect. In fact, my analogy to explain it is that the first time I dared to drink it, I was expecting the same taste as a bite of strong camembert cheese, but to my surprise I "bit" into a sweet mozzarella. What a pleasant surprise, I loved it!

"Research suggests that camel's milk is pretty much the closest you can come to a human mother's milk, particularly in terms of protein size, immune-boosting proteins like lactoferrin and immunoglobulins. **Camel's milk also contains exclusively A2 casein, making it more digestible and better tolerated than cow's milk.** For these reasons among many others, camel's milk is being studied for its potential complementary role in treating autoimmune conditions, autism, and milk allergies." [Desert Farms](#)



GOAT MILK

Good quality goat milk can be hard to find, unless you search among your local farmers. They usually have some available upon request. These farms usually produce quantities that are too small to promote commercially.

The good thing about it is that it typically has zero to little inflammatory A1 casein protein.

As opposed to cow's milk, goat's milk does not contain agglutinin proteins, these are lectins that cause fat globules in milk to cluster together. Without agglutinin in your milk, the fat globules don't cluster together, making it more digestible.



SHEEP MILK

This milk is in many ways superior to cow's milk. Its high solid content outperforms goat. Sheep's milk also has a greater concentration of all ten essential amino acids than cow's milk does.

Both New Zealand and Australia are known for their sheep industries; I have also found reliable sources while I was living in Berkeley, CA. And believe it or not, even now living in between The Big Apple and Miami! So, don't be shy. Grab that phone and call some farmers and get your hands on some raw sheep milk. You'll thank me later...lol.



BUFFALO MILK

Buffalo milk is actually relatively common. **Their milk is very rich in fat, protein, lactose, and minerals—and yields more cream, butter, and cheese due to its higher solids content.** The reason why “mozzarella di bufala” is so good is because of this milk’s distinct, sweet flavor! It is notably nutty when boiled, due to the release of sulfhydryl compounds. But we don’t recommend boiling milk!



YAK MILK

These amazing furry guys live in high mountains with very cold weather, in areas like western China and Mongolia. **They are essential and most of the time, the only alternative milk in these regions of the world.** Yak milk itself has more protein than in cow, goat, or even human milk, and higher individual amino acid content and more total amino acids, comparatively. In Tibet, people drink yak milk and have yak butter in tea. This is where [Dave Asprey -from Bulletproof-](#) got his brilliant idea of taking coffee to the next level with MCT oil and butter! Thanks Dave!



REINDEER MILK

Apparently reindeer are not only busy delivering gifts during Christmas. **Their milk is also an essential part of the economy and well-being of some communities in northern Eurasia.** It’s so cold that cows would not survive up there. WOW! The fat composition of their milk is similar to cows’, as is the concentration of calcium. Another one on my wish list to try!



HORSE & DONKEY MILK

Although myself nor anyone on my team have tried either, we know that **in some cultures they are considered to have hypoallergenic and therapeutic qualities**. If I get to try them and confirm the facts of what's told about these milks, I will be the first to share a glass with you. Deal?



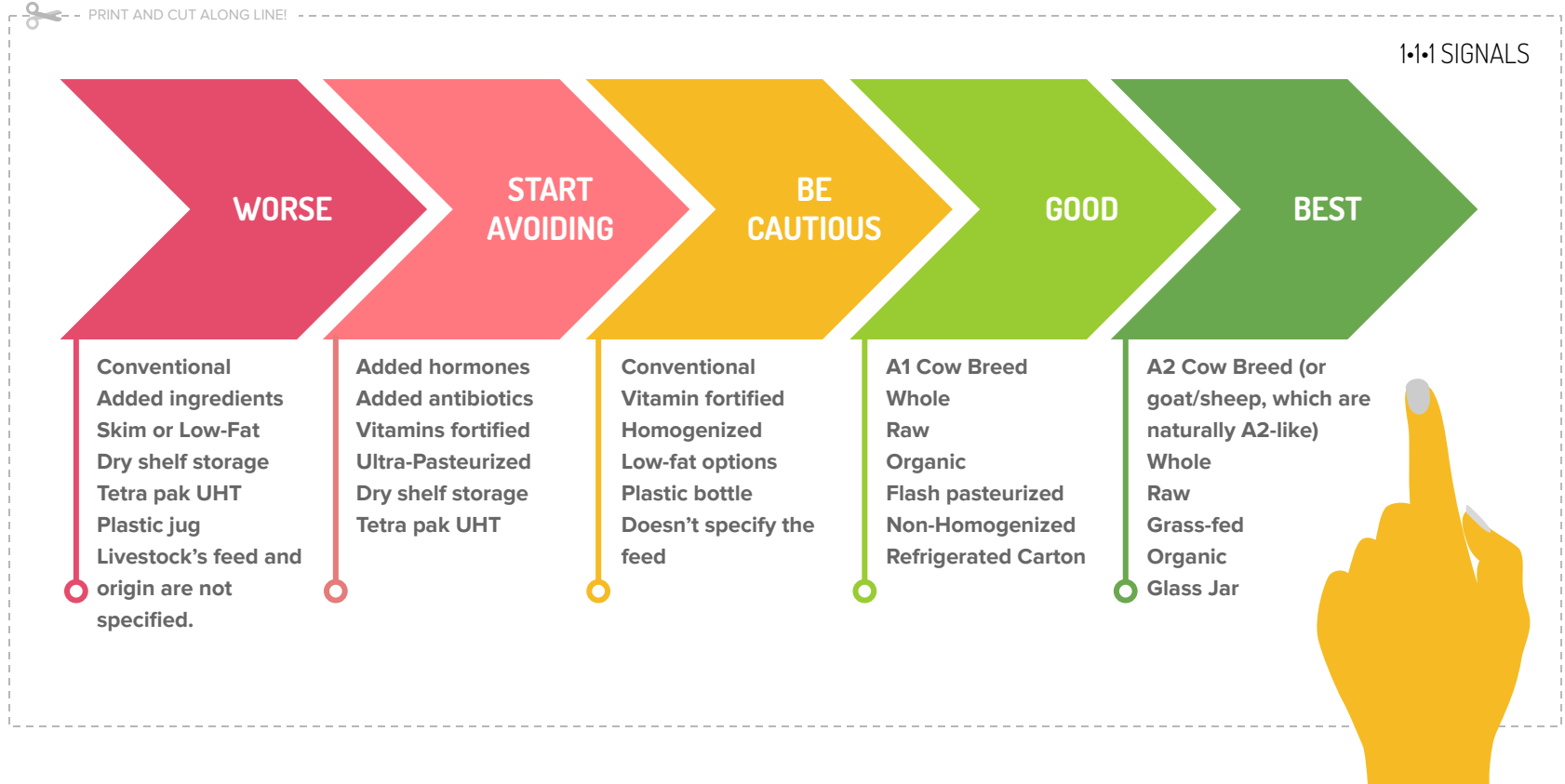
LLAMA MILK

And then of course! **There is also llama milk...** I'm sure you thought of that and were wondering, but I haven't gotten there yet and I was rather in a rush to send you my notes on milk and help to clear up the confusion...



LIVESTOCK MILK SPECTRUM

BUYING GUIDE





1•1•1 SIGNALS

**What milks have you tried?
Which are your favorites?**

Leave us a comment in [Substack](#) and tell us about your experiences with the wide variety of milk this beautiful world has to offer! Or, let us know if you found milk to be one of the root causes of your health issues. We look forward to hearing about your milk-related experiences!

Yrmis, 1•1•1 Signals & the All Black Sheep team!



[MyHeadQuarters.Club](#)