

# The Truth About Bread – Why Your Ancestors Could Digest It (And Why You Might Not)

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## STORY AT-A-GLANCE

- › Our ancestors consumed large quantities of bread (up to 16 pounds weekly for men and 8 pounds for women in the 1880s) without widespread digestive issues seen today. Pre-harvest desiccation with glyphosate (increased 400% in two decades) leaves residues in wheat products that may disrupt gut microbiome and contribute to digestive disorders
- › Modern wheat varieties have been selectively bred for higher yields and industrial processing compatibility rather than nutritional value or digestibility. The shift from slow fermentation methods to quick-rise commercial yeast has also eliminated the microbial diversity and protein breakdown that made traditional bread nutritious and easier to digest
- › "Enriched flour" contains synthetic nutrients and iron shards (ferrous sulfate) that can contribute to oxidative stress and may not provide the intended health benefits
- › Traditional sourdough fermentation breaks down gluten proteins (particularly gliadin) by more than 50% over 24 hours, making bread more digestible for many people with sensitivities
- › Most commercial bread contains hidden additives like inflammatory seed oils and harmful chemicals like potassium bromate (banned in many countries but not the U.S.)

For thousands of years, bread has been essential to human nutrition – a dietary staple enjoyed daily across countless cultures, likely because flour could be stored year-round, ensuring a reliable food source during times of scarcity.

In fact, our ancestors ate bread in quantities that would surprise many modern eaters. According to household guides from the 1880s, the average adult man was expected to consume a remarkable 16 pounds of bread per week, while women consumed about 8 pounds weekly. That's over a pound of bread a day!

The following quantities for each person in a large household are thought sufficient for one week :

BREAD.—8 lbs. or two quartern loaves for a woman servant ; 16 lbs. or four quarterns for a man ; but this quantity will vary as more or less meat is eaten.

MEAT.— $3\frac{1}{2}$  lbs. for a woman ;  $5\frac{1}{4}$  lbs. for a man, averaging all eaters.

MILK.—1 quart, or more if it is for a child.

BUTTER.— $\frac{1}{2}$  lb.

CHEESE.— $\frac{1}{2}$  lb.

POTATOES.— $3\frac{1}{2}$  lbs.

BEER.—1 gallon for a woman ; 7 quarts for a man.

TEA.—Two ounces.

COFFEE.— $\frac{1}{4}$  lb. (for breakfast only).

COCOA (PASTE).—Ditto,  $\frac{1}{4}$  lb.

SUGAR.— $\frac{1}{2}$  lb.

N.B.—In giving out stores for the week the housekeeper must multiply each article by the number of persons, and that will give the quantity required. Articles of doubtful use, such as rice or tapioca, may be given or not ; an account should be required of the last given out before replenishing the kitchen jar. The kitchen spice-box should be filled, and the date of filling it entered in the store-room book.

Grocery list from 'Warne's Model housekeeper,' 1882, where the author mentions this list in addition to produce available at the market.

Today, bread has a very different reputation. Once considered a fundamental food, it's now often avoided and can cause various health problems — from bloating and brain fog to more serious conditions like celiac disease and non-celiac gluten sensitivity. But what changed? Is bread itself the problem, or is there more to this story?

***As a Note:*** I am not writing this article to convince you to eat bread. Instead, I write this in hopes to reduce food fear in this (sometimes toxic) modern health space. It is a lot more empowering to better understand the WHY behind certain things, instead of arbitrarily labeling food as BAD or GOOD.

## The Ancient Relationship Between Humans and Bread

Our love affair with bread is ancient – dating back thousands of years when early civilizations first ground wild grains and mixed them with water to create rudimentary flatbreads. Bread is deeply embedded in sacred texts, rituals, and traditions, symbolizing sustenance, community, and faith across cultures.

The Egyptians, for example, played a pivotal role in the evolution of bread-making around 5,000 years ago, likely discovering leavened bread through wild yeasts fermenting dough left exposed to the elements. This discovery revolutionized human nutrition and led to sourdough fermentation becoming the dominant bread-making method across cultures.

Unlike modern methods, traditional bread-making wasn't focused on speed or shelf-life – it prioritized nutrition, digestibility, and flavor through time-tested techniques.

## **Your Grandparents Didn't Have Gluten Issues**

Today, celiac disease affects approximately 1 in 100 people, with even higher rates of general gluten sensitivity. Yet just a century ago, these conditions were exceedingly rare. Why could your grandparents digest bread with ease while modern populations struggle? The answer lies not in bread itself, but in what we've done to it.

## **Modern Wheat – Not Your Ancestor's Grain**

The wheat of today bears little resemblance to the heritage varieties our ancestors consumed. Over the last century, wheat has been systematically bred for higher yields, disease resistance, and industrial processing compatibility – not nutritional value or digestibility.

While modern wheat is not yet genetically modified in the traditional sense (the first GMO wheat variety for drought resistance was only approved in the U.S. in August 2024<sup>1</sup>), it has been dramatically altered<sup>1</sup> through selective breeding programs that prioritize commercial interests over human health.

These breeding programs have created varieties that produce more grain per acre but contain altered protein structures that may be harder for humans to digest. The result? Higher profits for industrial agriculture but more digestive distress for consumers.

## **The Glyphosate Factor – Pre-Harvest Desiccation**

Perhaps one of the most concerning modern agricultural practices affecting the digestibility of wheat is pre-harvest desiccation – a process largely unknown to consumers but increasingly linked to digestive health problems.

Even though wheat is not typically a GMO crop, glyphosate use on wheat has skyrocketed by 400% in the past two decades.<sup>2</sup> Why? Because farmers discovered they could use this herbicide as a drying agent, particularly in regions with short growing seasons or wet harvests.

*"The herbicide, glyphosate, is applied to wheat crops before harvest to encourage ripening resulting in higher glyphosate residues in commercial wheat products within North America."<sup>3</sup>*

This 'pre-harvest desiccation' practice involves spraying crops with glyphosate shortly before harvest to force uniform drying and enable earlier harvesting. Originally developed in 1980s Scotland to address unreliable grain drying conditions, the technique has spread globally.<sup>4</sup>

The result? Non-GMO wheat commonly receives a "glyphosate bath" before harvest, meaning residues end up in your daily bread (and other baked goods made with wheat).

Research has begun linking glyphosate exposure to the rise in celiac disease and other digestive disorders.<sup>5</sup> The mechanism makes logical sense: glyphosate is designed to kill weeds and microorganisms in soil, but our digestive systems contain trillions of beneficial microorganisms essential for health.

"Glyphosate residues on food could cause dysbiosis, given that opportunistic pathogens are more resistant to glyphosate compared to commensal bacteria."<sup>6</sup> In other words, glyphosate exposure through food may preferentially kill beneficial gut bacteria while allowing harmful bacteria to flourish – a recipe for digestive distress and chronic inflammation.

## **The Problem with 'Enriched Flour' – Iron Shards and Synthetic Vitamins**

Walk down any bread aisle in America and you'll see the word "enriched flour" prominently displayed in the ingredient lists on nearly every package. This seemingly positive term masks a concerning reality: most modern flour has been stripped of its natural nutrients during processing, then artificially "enriched" with synthetic versions.

This enrichment process typically includes adding iron shards (yes, actual metal particles) that can contribute to iron overload and increase oxidative stress in susceptible individuals. As Dr. Ray Peat explains:

*"Industrially processed grains have most of the nutrients, such as vitamin E, the B vitamins, manganese, magnesium, etc., removed to improve the products' shelf life and efficiency of processing, and the government required that certain nutrients be added to them as a measure to protect the public's health, but the supplementation did not reflect the best science even when it was first made law, since food industry lobbyists managed to impose compromises that led to the use of the cheapest chemicals, rather than those that offered the greatest health benefits.*

*For example, studies of processed animal food had demonstrated that the addition of iron (as the highly reactive form, ferrous sulfate, which happens to be cheap and easy to handle) created disease in animals, by destroying vitamins in the food."*

Since 1941, federal law has required that iron shavings, in the form of ferrous sulfate, be added to bread, flour, pasta, cereals, and most packaged foods. As a result, Western society has seen an overwhelming increase in iron shaving consumption, largely due to the mandatory fortification of grain products.

However, the amount of added iron reported on food labels is often significantly underreported. Many labels list "reduced iron," a misleading term – it actually refers to iron added in its ferrous form, which is highly reactive and easily absorbed by the body.

Bread, flour, pasta, cereals, and most packaged foods now contain iron shavings that has been artificially added as ferrous sulfate due to federal law since 1941. Since, we have been bombarded with iron in Western society more than ever before, largely due to the mandatory fortification of grain products.

Plus, the amount of added iron reported on food labels is often grossly underreported.<sup>7</sup> Many labels list "reduced iron," which is misleading terminology – it actually means iron is added in the ferrous form, which is very reactive and easily absorbed by the body.

What's particularly concerning is that food fortified with iron does very little to prevent anemia, the condition it was intended to address. Sweden and Finland implemented iron fortification in their food until 1995, and Denmark until 1987, before banning it due to health concerns and low bioavailability. After stopping iron fortification, iron deficiency anemia remained virtually unchanged in those countries,<sup>8</sup> suggesting the practice may offer more risks than benefits.

The flour enrichment process also adds synthetic B vitamins that may not be properly utilized by the body. Consider folic acid – the synthetic form of vitamin B9 added to enriched flour. Unlike folate (the natural form found in foods like leafy greens and liver), synthetic folic acid requires conversion to tetrahydrofolate in the body.

If there are issues with this conversion process, folic acid can accumulate in the bloodstream, interfering with the body's natural folate balance and contributing to B vitamin dysregulation.

## Hidden Seed Oils and Harmful Additives

Open the ingredients list on a standard loaf of bread, and you'll likely find unexpected additions like soybean oil or vegetable oil. These industrial seed oils, high in inflammatory omega-6 fatty acids, have infiltrated modern bread recipes for reasons that have nothing to do with nutrition or tradition. Remember, seed oils are cheap and abundant due to government subsidies!

Even more concerning, many conventional flours and baked goods in the U.S. contain potassium bromate – a possible human carcinogen that's banned in numerous other countries.<sup>9</sup> This additive strengthens dough and allows it to rise higher, but at what cost to human health?

## The Lost Art of Fermentation

Perhaps the most significant change in bread production has been the abandonment of traditional fermentation methods in favor of speed and efficiency.

For thousands of years, people relied on sourdough fermentation to make bread digestible. This natural process used wild yeast and lactic acid bacteria to leaven dough slowly, breaking down gluten and phytic acid while infusing the bread with beneficial bacteria like *Lactobacillus reuteri* (the same bacteria passed from mothers to babies during breastfeeding). The fermentation timeline tells the story:

- **Ancient times through 1800s** – Most bread was made using wild fermentation methods like sourdough or with yeast sourced from breweries. The slow fermentation process developed complex flavors and made bread easier to digest by breaking down difficult proteins.
- **Mid-1800s** – As brewing became more industrialized, bakers began using yeast from breweries (*Saccharomyces cerevisiae*), which produced a faster rise than sourdough but slightly reduced the natural fermentation time.

- **Early 1900s** – The demand for faster, more reliable baking led to commercial yeast cultivation, allowing bakers to produce loaves in hours rather than days.
- **Mid-1900s to present** – Modern instant yeast and active dry yeast dominate commercial baking, offering quick results but eliminating the microbial diversity and slow fermentation that made traditional bread nutritious and digestible.

With commercial yeast, the process is streamlined and highly controlled for mass production, ensuring quick and consistent results. However, this method may lack the depth of flavor and potential health benefits that many believe come from the slower, more natural fermentation of sourdough.

## **The Gluten Connection**

Gluten is a complex mixture of proteins found in wheat and other grains. It consists of two main proteins: glutenin and gliadin. Together, these proteins form the structure and texture of dough. Glutenin contributes to the elasticity and chewiness of the dough, while gliadin is responsible for the dough's ability to rise and hold air.

While glutenin and gliadin work in tandem to create the unique texture of bread, it's gliadin that is often the main culprit in digestive discomfort for sensitive individuals.

In those with non-celiac gluten sensitivity (NCGS), gliadin can be particularly problematic, as it is harder to break down in the digestive system. Normally, proteins like gliadin are broken down by enzymes in the digestive system into smaller pieces called peptides, and then further into amino acids, which are small enough to be absorbed by the body.

However, in people with gluten sensitivity or digestive issues, gliadin is only partially broken down into oligopeptides, which are short chains of amino acids.

These oligopeptides are problematic because they are still relatively large, and because of their specific amino acid sequences and low surface area, they aren't easily broken down any further by digestive enzymes.<sup>10</sup> This incomplete digestion leaves larger gliadin

peptides in the digestive system, where they can trigger immune responses or damage the gut.

Specifically, they can interfere with the intestinal lining, blunting the villi and increasing intestinal permeability.<sup>11,12</sup> When the gut lining is compromised, it can lead to inflammation and digestive discomfort, contributing to conditions like NCGS.

In other words, in sensitive individuals, the gluten (gliadin) isn't broken down into small enough components, leaving larger, harmful peptides that the body can't process or handle properly. This is where sourdough fermentation can come into play!

In traditional sourdough fermentation, the lactic acid bacteria (LAB) present in the dough play a crucial role in breaking down these gluten proteins. The LAB convert sugars in the wheat flour to lactic acid, which increases the dough's acidity. This higher acidity helps facilitate the pre-breakdown of gluten, particularly the gliadin protein, improving digestion. This is why sourdough can be easier to digest, as the fermentation breaks down gliadin.<sup>13</sup>

Notably, specific strains of LAB can hydrolyze wheat proteins, including gliadin, by more than 50% over a 24-hour fermentation period.<sup>14</sup> This reduction in gliadin content makes sourdough bread easier to digest, especially for individuals with sensitivities or compromised gut integrity.

"The consumption of low-gliadin bread E82 by NCGS subjects induced positive changes in the gut microbiota composition, increasing the butyrate-producing bacteria and favoring a microbial profile that is suggested to have a key role in the maintenance or improvement of gut permeability."<sup>15</sup>

While sourdough isn't gluten-free, it significantly reduces the amount of gliadin present, making it easier to digest for many people, especially those with gut issues. A study found that sourdough-fermented wheat flour contained less gliadin (0.81% to 1.26%) compared to control flour (3.52% to 3.97%).<sup>16</sup> This could explain why sourdough is often better tolerated than modern bread, which skips the crucial fermentation step that would otherwise help break down gluten proteins.

Without this step, quick-rise breads retain their full gluten content, which may be harder to digest and exacerbate symptoms in sensitive individuals. So, the problem may not be gluten itself but rather how it's processed (or not processed) in modern bread production.

***Important Note:*** While some people with gluten sensitivities may find sourdough bread more tolerable, it's important to note that sourdough bread still contains gluten and is not safe for those with celiac disease.

## **Why Traditional Methods Matter**

Traditional sourdough fermentation creates several advantages for digestibility:

- It breaks down gluten proteins, particularly gliadin, making them easier to digest
- It reduces phytic acid (an antinutrient that binds minerals), improving mineral absorption
- It creates prebiotic compounds that support gut health
- It introduces beneficial bacteria that may improve gut microbiome diversity

And research confirms these improvements! Fermentation breaks down both gluten and FODMAPs (fermentable carbohydrates that can cause digestive distress), making traditionally prepared bread more tolerable for many people.<sup>17,18</sup>

## **So, Is Bread Bad for You?**

Bread itself isn't inherently "bad" — it's what we've done to it through modern agricultural practices, processing methods, and baking techniques that has transformed this ancient staple from nourishment into a potential health concern for many. The solution isn't necessarily abandoning bread but rather returning to traditional methods and quality ingredients:

- Choose real sourdough made with long fermentation (not the store-bought "sourdough" with artificial sourdough flavoring. If the ingredient list includes 'yeast,' that is not true sourdough!)
- Seek out heritage wheat varieties when possible
- Choose organic flour, or know where your flour comes from to avoid pre-harvest desiccation (a glyphosate bath!)
- Avoid enriched flour with synthetic additives
- Read ingredient lists carefully to avoid hidden seed oils and preservatives
- Support small-scale bakers using traditional techniques and high-quality flour

For those who truly cannot tolerate wheat, carefully selected gluten-free options may be appropriate – but even then, ingredient quality matters tremendously. Always make sure to read ingredient lists to avoid hidden gums, preservatives, and seed oils!

## **Conclusion**

Our ancestors thrived on bread for millennia without the epidemic of digestive issues we see today. The difference wasn't that they were somehow more resilient – it's that their bread was fundamentally different from what fills most modern store shelves.

The problem isn't bread itself ... it's what we've done to it. One reason why traditional bread-making has been abandoned by large food manufacturers is simple: time. Real sourdough takes patience – a commodity in short supply in our industrial food system.

Authentic sourdough costs more than standard processed bread because it requires this extra time, skill, and quality ingredients. The fermentation process can't be rushed without sacrificing the very benefits that make it special.

By understanding the history of bread-making and the significant changes that have occurred over the past century, we can make more informed choices about this dietary staple. Whether you choose traditionally fermented sourdough, carefully selected commercial options, or gluten-free alternatives, knowledge is the key ingredient to making bread work for your body rather than against it.

In the end, the best bread may be the one that most closely resembles what your ancestors would recognize – simple, fermented, and made with integrity.

## About the Author

Ashley Armstrong is dedicated to building an alternative food system grounded in regenerative farming and traditional food preparation methods, all aimed at promoting both human and environmental health. Her mission is to provide access to food that is not only nutritious but also easily digested and well-tolerated.

Armstrong is the co-founder of [Angel Acres Egg Club](#), which specializes in low-PUFA (polyunsaturated fat) eggs that are shipped to all 50 states. Armstrong also co-founded [Nourish Food Club](#), which ships long fermented traditional sourdough, low-PUFA chicken, low-PUFA pork, beef, cheese, and A2 to all 50 states. While the egg club has memberships open, Nourish Food Club has a temporary waiting list which you can join to be notified when new spots open up!

## Sources and References

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