A PLAIN-ENGLISH FACT CHECK

WHAT'S ON YOUR PLATE

Food Safety, Labels and Who Checks Your Food



FOOD SAFETY | LABELS | ADDITIVES | CLAIMS

Who Checks Your Food, What the Labels Mean, and What the Records Show

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What's on Your Plate

Food Safety, Labels and Who Checks Your Food

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What's on Your Plate: Food Safety, Labels and Who Checks Your Food

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Information in this book is current as of November 12, 2026. Laws, rules, agency leaders and official estimates change. Check the sources in the notes for later updates.

This book is for general information. It is not medical, nutrition or legal advice. If you have a food allergy or a health condition, follow your doctor's advice.

Every factual statement is tied to a numbered note with its source. Where I could not confirm something, the text says so.

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Introduction: How to Read This Book

The information in this book stops at November 12, 2026. Rules, agency leaders and court cases can change after that date. When a fact could change, I tell you the date of the source I used, so you can check whether anything newer has come out.

Most of us make dozens of food choices a day without thinking about who decided what goes on the label or who, if anyone, checked the factory. I wrote this book to answer those questions in plain words. Who checks your food? What do the words on a package actually promise? Which scary claims hold up, and which ones fall apart when you read the records?

You might ask, "Why should I trust this book over the next video I see?" You shouldn't trust it on my say-so. Every fact in it has a footnote that points to a source you can open and read yourself. If I could not find a source, I say so with the words [Not verified] and tell you what I searched.

This book explains how food is regulated in the United States. It is not medical or nutrition advice for any one person. If you have a food allergy or a health condition, follow your doctor.

Three kinds of statements

I keep three kinds of statements apart, and I label them when it matters.

- **Confirmed facts.** These are things a primary source states, such as a law, a regulation, an agency report or a court ruling.
- **Interpretations.** These are what a person, group or agency thinks the facts mean. When I give one, I say whose it is and cite where they said it.
- **Unknowns.** These are questions the evidence has not settled. I say what is missing and, where I can, what would settle it.

Where the facts come from

I used sources in this order of preference. The footnotes show which kind each one is.

Tier	What it is	Examples
1. Primary and official	The law itself, the rules agencies write, and the agencies' own data	Laws on Congress.gov, the Federal Register, FDA, USDA, CDC and EPA pages
2. Nonpartisan analysis	Government watchdogs and researchers who work for Congress	Government Accountability Office (GAO), Congressional Research Service (CRS), Congressional Budget Office (CBO), inspectors general
3. Scholarly	Peer-reviewed studies and expert panels	National Academies of Sciences, Engineering, and Medicine (NAS) reports, World Health Organization

Tier	What it is	Examples
		(WHO) reviews, journal articles
4. Fact-checks and journalism	News reports at the time, and fact-checkers used only as pointers back to primary sources	Associated Press, Reuters, major newspapers
5. Advocacy and think tanks	Groups that argue a side. I use them only to show what that side argues, and I label them	Consumer groups, industry groups, campaign groups

A few acronyms will come up again and again, so here they are in one place. The Food and Drug Administration (FDA) oversees most of the food supply. The U.S. Department of Agriculture (USDA) runs the Food Safety and Inspection Service (FSIS), which inspects meat and poultry. The Centers for Disease Control and Prevention (CDC) tracks illness. The Environmental Protection Agency (EPA) sets limits on pesticides. The Federal Trade Commission (FTC) polices advertising. The Department of Health and Human Services (HHS) is the parent department of the FDA and the CDC.

I did not use social media posts, chain emails, forums, video channels or anonymous content-farm pages as evidence. When I mention one, it is only as an example of a claim being spread, with a date.

The four verdicts

Part Six tests popular claims about food. Each claim gets one of four verdicts, and only these four.

Verdict	What it means
True	Primary sources confirm it as it is usually stated.
Partly true	There is a real fact underneath, but the usual version leaves out or twists something important. I say exactly which part is true.
False (debunked)	Primary sources contradict it.
Inconclusive	The evidence is not enough to say either way, or an investigation is still open. I say what would settle it.

I test claims from every side of the political spectrum the same way. Some claims are made by people who distrust the food industry. Some are made by people who distrust the government. Some are made by the industry or the government about themselves. They all get the same test: what do the records show?

Money and dates

When I give a dollar amount, I say whether it is nominal (the dollars of that year) or adjusted for inflation, and to which year. When I give a current figure, the table title or the sentence tells you the date of the source.

Six things that surprised me

Before you start, here are six facts I found while writing this book that changed how I think about the food in my own kitchen. Each one is covered in detail later, with its sources.

1. **The government does not approve most foods before they are sold.** The FDA says, "Although the FDA does not approve food products, certain ingredients must be approved by the FDA before they are used in food."[1] Companies are responsible for making safe food. Chapter 5 and Claim 8 in Chapter 17 explain what that means.
2. **Meat gets an inspector every day. Most other food does not.** Under the meat and poultry laws, "no animal may be slaughtered and dressed unless an inspector has examined it," and processing plants are visited daily.[2] FDA-regulated plants, which make most of our food, are inspected every few years at best.[3] Chapter 4 explains how that split happened in 1906 and why it still exists.
3. **Companies can decide on their own that a new ingredient is safe.** Under the "generally recognized as safe" rule, the FDA says notifying the agency is "not mandatory."[4] A proposed rule from August 2026 would change that, but it was still a proposal on November 12, 2026.[5] Chapter 10 covers it.

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[1] FDA, "Is It Really 'FDA Approved'?" content current as of May 4, 2026. https://www.fda.gov/consumers/consumer-updates/it-really-fda-approved. Accessed November 12, 2026.

[2] Congressional Research Service (CRS), "The Federal Food Safety System: A Primer," RS22600, December 16, 2016 (copy hosted by EveryCRSReport.com). https://www.everycrsreport.com/files/20161216_RS22600_910156eb73ec572f200962acf53119bdfacf28ba.pdf. Accessed November 12, 2026.

[3] GAO, "Food Safety: FDA Should Strengthen Inspection Efforts to Protect the U.S. Food Supply," GAO-25-107571, January 8, 2025. https://www.gao.gov/products/gao-25-107571. Accessed November 12, 2026.

[4] FDA, "Understanding How the FDA Regulates Food Additives and GRAS Ingredients," content current as of June 6, 2024. https://www.fda.gov/food/food-additives-and-gras-ingredients-information-consumers/understanding-how-fda-regulates-food-additives-and-gras-ingredients. Accessed November 12, 2026.

[5] FDA, "Generally Recognized as Safe (GRAS)," content current as of August 10, 2026. https://www.fda.gov/food/food-ingredients-packaging/generally-recognized-safe-gras. Accessed November 12, 2026.

4. **Most date labels are not about safety.** Except for infant formula, USDA says "product dating is not required by Federal regulations."[6] Chapter 8 explains what the dates do mean.
5. **The FDA has fallen far short of its own inspection targets for years.** From 2018 through 2023, the FDA averaged 917 foreign food inspections a year, against a legal target of 19,200.[7] Chapter 5 has the numbers.
6. **The famous "48 million" food poisoning number is old.** It comes from 2011 estimates. A 2025 CDC study counted about 9.9 million illnesses a year from six major germs, but the two studies count different things and "cannot be directly compared."[8,9] Chapter 15 explains the difference.

None of these is a reason to panic. Most food in America is safe most of the time. But knowing how the system really works helps you make better choices and judge the claims you hear.

How to use the notes

Every factual statement in this book has a numbered note. The note gives the source's title, who published it, its date and a web address, along with the date I read it. If a sentence quotes someone, the quote comes from the source in the note. If you want to check me, go to the note.

A few habits will help:

- **Look at the date in the note.** A page "current as of" 2024 may have been updated since. If a fact matters to you, check whether a newer version exists.
- **Notice the kind of source.** A law or an agency's own page is the strongest evidence of what the rule is. A news story is good evidence of what happened on a certain

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[6] USDA FSIS, "Food Product Dating" (no date shown on page). https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/food-product-dating. Accessed November 12, 2026.

[7] GAO, "Food Safety: FDA Should Strengthen Inspection Efforts to Protect the U.S. Food Supply," GAO-25-107571, January 8, 2025. https://www.gao.gov/products/gao-25-107571. Accessed November 12, 2026.

[8] U.S. Government Accountability Office (GAO), "Food Safety: Status of Foodborne Illness in the U.S.," GAO-25-107606, February 3, 2025. https://www.gao.gov/assets/gao-25-107606.pdf. Accessed November 12, 2026.

[9] Centers for Disease Control and Prevention (CDC), "Estimates: Burden of Foodborne Illness in the United States," last updated March 19, 2025. https://www.cdc.gov/food-safety/php/data-research/foodborne-illness-burden/index.html. Accessed November 12, 2026.

day. An advocacy group's page tells you what that group argues, and I label it that way.

- **Read the brackets.** When you see a note in square brackets, such as [Not verified], it means I tried to confirm something and could not, or that I am giving my own reading of the facts. I would rather tell you I am not sure than guess.

A word about balance

Food is political now. Some people distrust large food companies and want more rules. Some distrust the government and want fewer. Some trust neither. I have tried to give each side's best case in its own words and to test every claim the same way, no matter who makes it.

Where a question comes down to values, such as how much risk is acceptable or whether a decision belongs to Washington or to the states, I lay out the choices and the tradeoffs. I do not tell you what to choose. Part Seven does this in detail.

How the book is built

Part One tells how food safety laws began, from the scandals of the 1800s to the label rules of 1990. Part Two explains who checks your food today and where the gaps are. Part Three decodes the label, one word at a time. Part Four looks at additives, dyes, genetically modified foods, pesticides and ultra-processed food, and what the science shows. Part Five covers how common food poisoning is and the outbreaks that changed the rules. Part Six tests twenty popular claims. Part Seven explains where things stand as of November 2026 and lays out the reform options people are arguing about, without picking one.

At the back you will find a glossary of label words, a step-by-step guide to checking a recall, a timeline, and the full list of sources.

Part One: How Food Safety Laws Began

Chapter 1: Before 1906

Picture a grocery store with no labels you can trust. The jar says honey, but it might be glucose syrup. The butter might be rancid butter that someone treated to hide the smell. The jam might be apple scraps, glucose, a coal-tar dye and grass seeds standing in for strawberry seeds. That is not a made-up scene. A historian writing for the FDA lists those exact tricks as common in the late 1800s: "deodorized rotten eggs, revived rancid butter, substituted glucose for honey," and "strawberry jam" made from apple scraps, glucose, coal-tar dye and timothy seeds.[10]

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[10] James Harvey Young, "The Long Struggle for the Law," published by FDA, content current as of February 6, 2018. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/long-struggle-law. Accessed November 12, 2026.

There was no federal food law to stop it. Some states had their own laws, but they did not match. The same historian describes "the proliferation of State laws containing contradictory provisions," which made life hard for honest sellers as well as buyers.[11]

Swill milk

One of the worst scandals of the 1800s was about milk in New York City. Cows kept in stables next to distilleries "were fed the steaming remains of grain distillation," and lived "amid miserable conditions," most surviving "only ... a few months." The cows "produced a sickly, bluish milk." To make it look like real milk, "the distilleries added chalk, eggs, flour, water, molasses, and other substances," and sold it as "Pure Country Milk."[12]

On May 8, 1858, Frank Leslie's Illustrated Newspaper ran a long report exposing these dairies and called the operators "milk murderers."[13] The Smithsonian, retelling the story, quotes a New York Times line about "the 8,000 children that died last year from the poison of swill milk."[14] I want to be careful with that number. It is a newspaper claim from the time, quoted by a magazine, not a count from health records. I could not find an official death count, so treat the 8,000 figure as what newspapers said then, not as a confirmed fact.

What ended it? Not a single law, according to the Smithsonian's account. "Public outcry from these revelations eventually led many distilleries to close their deleterious dairies."[15]

You might ask, "Why didn't pasteurization fix the problem right away?" Pasteurization was "pioneered by its namesake, Louis Pasteur, in France during the 1860s," but it was "a tough sell in the United States even with the swill milk debacle." Surprisingly, one skeptic was Harvey Wiley, the hero of the next chapter, who argued that pasteurized milk lost some of

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[11] James Harvey Young, "The Long Struggle for the Law," published by FDA, content current as of February 6, 2018. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/long-struggle-law. Accessed November 12, 2026.

[12] "The Surprisingly Intolerant History of Milk," Smithsonian Magazine (no byline or date shown on the page). https://www.smithsonianmag.com/history/surprisingly-intolerant-history-milk-180969056/. Accessed November 12, 2026.

[13] "The Surprisingly Intolerant History of Milk," Smithsonian Magazine (no byline or date shown on the page). https://www.smithsonianmag.com/history/surprisingly-intolerant-history-milk-180969056/. Accessed November 12, 2026.

[14] "The Surprisingly Intolerant History of Milk," Smithsonian Magazine (no byline or date shown on the page). https://www.smithsonianmag.com/history/surprisingly-intolerant-history-milk-180969056/. Accessed November 12, 2026.

[15] "The Surprisingly Intolerant History of Milk," Smithsonian Magazine (no byline or date shown on the page). https://www.smithsonianmag.com/history/surprisingly-intolerant-history-milk-180969056/. Accessed November 12, 2026.

its nutritional qualities. In 1908, a 600-page federal report blamed impure milk for most childhood deaths, according to the Smithsonian.[16] [The Smithsonian article does not give the full title of that report, and I did not locate it.] Claim 15 in Chapter 17 shows what the CDC says about raw milk today.[17]

Embalmed beef

The next big scandal came from the Army. During the Spanish-American War in 1898, soldiers complained about canned and refrigerated beef that made them sick. General Nelson A. Miles, the commanding general of the Army, testified that the War Department had given troops tainted meat. His charge became famous under the name "embalmed beef."[18]

What did the investigation find? A commission headed by Grenville M. Dodge looked into the war's management. According to historian John G. Sproat, the commission spent long hours on the embalmed beef charge "before concluding that Miles could not substantiate it."[19] An FDA history adds that the investigation "traced some of the trouble to the rapid growth of bacteria in meat exposed to the hot Cuban sun."[20]

So the beef was bad, but the most dramatic version of the charge, that someone embalmed it with chemicals on purpose, was not proven. Even so, the scandal made Americans ask a hard question. If the Army could not get safe meat, what were families getting?

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[16] "The Surprisingly Intolerant History of Milk," Smithsonian Magazine (no byline or date shown on the page). https://www.smithsonianmag.com/history/surprisingly-intolerant-history-milk-180969056/. Accessed November 12, 2026.

[17] CDC, "Raw Milk," last updated January 31, 2025. https://www.cdc.gov/food-safety/foods/raw-milk.html. Accessed November 12, 2026.

[18] John G. Sproat, "McKinley and Mismanagement in the Spanish-American War," American Heritage, Vol. 66, Issue 2, February/March 2021. https://www.americanheritage.com/mckinley-and-mismanagement-spanish-american-war. Accessed November 12, 2026.

[19] John G. Sproat, "McKinley and Mismanagement in the Spanish-American War," American Heritage, Vol. 66, Issue 2, February/March 2021. https://www.americanheritage.com/mckinley-and-mismanagement-spanish-american-war. Accessed November 12, 2026.

[20] James Harvey Young, "The Long Struggle for the Law," published by FDA, content current as of February 6, 2018. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/long-struggle-law. Accessed November 12, 2026.

Nearly a hundred failed bills

Congress knew about these problems. Members kept filing bills to set national food rules. According to the FDA, "Since 1879, nearly 100 bills had been introduced in Congress to regulate food and drugs."[21] The Library of Congress puts it as "more than 100 bills" between 1880 and 1906.[22] The two counts use slightly different start dates, but they agree on the main point. For more than 25 years, Congress tried and failed.

Why did the bills fail? [The full story of who blocked them is beyond the sources I checked for this book, so I do not name the groups.] What is clear is that the states could not fill the gap on their own, because their laws contradicted each other.[23] It took a chemist, a novelist and a president to break the logjam. That is the next chapter.

Year	Event	Source
1858	Frank Leslie's Illustrated Newspaper exposes New York swill milk dairies (May 8)	Smithsonian[24]
1879	First broad federal food bill is introduced in Congress	FDA history[25]
1883	Harvey W. Wiley becomes chief chemist at the Department of Agriculture	FDA Milestones[26]
1898 to 1899	"Embalmed beef" charge during the Spanish-American War; the Dodge Commission says it was not proven	American Heritage[27]

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[21] FDA, "Part I: The 1906 Food and Drugs Act and Its Enforcement," April 24, 2019. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/part-i-1906-food-and-drugs-act-and-its-enforcement. Accessed November 12, 2026.

[22] Claire D'Mura, "Harvey Wiley and the Pure Food Movement," Inside Adams blog, Library of Congress, December 13, 2024. https://blogs.loc.gov/inside_adams/2024/12/harvey-wiley-and-the-pure-food-movement/. Accessed November 12, 2026.

[23] James Harvey Young, "The Long Struggle for the Law," published by FDA, content current as of February 6, 2018. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/long-struggle-law. Accessed November 12, 2026.

[24] "The Surprisingly Intolerant History of Milk," Smithsonian Magazine (no byline or date shown on the page). https://www.smithsonianmag.com/history/surprisingly-intolerant-history-milk-180969056/. Accessed November 12, 2026.

[25] James Harvey Young, "The Long Struggle for the Law," published by FDA, content current as of February 6, 2018. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/long-struggle-law. Accessed November 12, 2026.

[26] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

Chapter 2: Wiley, the Poison Squad and The Jungle

The chemist

Harvey Washington Wiley became chief chemist of the Department of Agriculture in 1883, and he expanded the agency's studies of food adulteration.[28] An FDA history calls him the leader of the "pure food crusade."[29]

Wiley's most famous experiment started in 1902. That year Congress gave his Bureau of Chemistry $5,000 (nominal 1902 dollars) to study chemical preservatives and colors and their effects on digestion and health.[30] Wiley recruited young men to eat their meals at a special table. According to the Library of Congress, there were 12 volunteers, "all spry young men who would become known as the 'poison squad.'" Over the years the trials tested "borax, salicylic acid, formaldehyde, saccharin, sodium benzoate and copper sulfate."[31]

The press loved the story. The experiments were "reported flamboyantly in the press as 'Poison Squad' experiments," in the words of the FDA's historian.[32] I have seen the nickname credited to a specific reporter, but none of the sources I checked names one, so I leave it unnamed.

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[27] John G. Sproat, "McKinley and Mismanagement in the Spanish-American War," American Heritage, Vol. 66, Issue 2, February/March 2021. https://www.americanheritage.com/mckinley-and-mismanagement-spanish-american-war. Accessed November 12, 2026.

[28] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[29] James Harvey Young, "The Long Struggle for the Law," published by FDA, content current as of February 6, 2018. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/long-struggle-law. Accessed November 12, 2026.

[30] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[31] Claire D'Mura, "Harvey Wiley and the Pure Food Movement," Inside Adams blog, Library of Congress, December 13, 2024. https://blogs.loc.gov/inside_adams/2024/12/harvey-wiley-and-the-pure-food-movement/. Accessed November 12, 2026.

[32] James Harvey Young, "The Long Struggle for the Law," published by FDA, content current as of February 6, 2018. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/long-struggle-law. Accessed November 12, 2026.

Why does a 120-year-old experiment matter? It set a pattern we still argue about. Wiley wanted makers to prove a chemical was safe before they used it. Many businesses wanted the government to prove harm before it could act. That same argument shows up in Chapter 10 about "generally recognized as safe" ingredients, and in Chapter 11 about food dyes.

The novelist

Upton Sinclair was "a devout socialist." Beginning "in the fall of 1904," the 26-year-old writer spent seven weeks investigating the Chicago stockyards, and wrote a novel about the workers he called "the wage slaves of the Beef Trust."[33] The Jungle first ran in installments from February to November 1905 in a socialist newspaper called Appeal to Reason. Doubleday, Page & Company published it as a book in February 1906, and it sold more than 150,000 copies in its first year.[34]

The book was mainly about how workers were treated. But newspaper headlines "did not focus on the oppression of Chicago's meatpackers." Readers fixed instead on scenes of "rotten beef doctored with chemicals and dead rats and sawdust swept into sausage meat," and workers with tuberculosis who "coughed and spat blood onto floors."[35] Sinclair later said, "I aimed at the public's heart, and by accident I hit it in the stomach."[36] The FDA's historian puts it the same way: Sinclair "aimed, as he later said, at people's hearts but

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[33] Christopher Klein, "How Upton Sinclair's 'The Jungle' Led to US Food Safety Reforms," History.com, May 10, 2023, updated July 20, 2026. https://www.history.com/articles/upton-sinclair-the-jungle-us-food-safety-reforms. Accessed November 12, 2026.

[34] Christopher Klein, "How Upton Sinclair's 'The Jungle' Led to US Food Safety Reforms," History.com, May 10, 2023, updated July 20, 2026. https://www.history.com/articles/upton-sinclair-the-jungle-us-food-safety-reforms. Accessed November 12, 2026.

[35] Christopher Klein, "How Upton Sinclair's 'The Jungle' Led to US Food Safety Reforms," History.com, May 10, 2023, updated July 20, 2026. https://www.history.com/articles/upton-sinclair-the-jungle-us-food-safety-reforms. Accessed November 12, 2026.

[36] Christopher Klein, "How Upton Sinclair's 'The Jungle' Led to US Food Safety Reforms," History.com, May 10, 2023, updated July 20, 2026. https://www.history.com/articles/upton-sinclair-the-jungle-us-food-safety-reforms. Accessed November 12, 2026.

hitting their stomachs instead." The book "cut meat sales in half, angered President Roosevelt," he writes.[37]

You might ask, "Did Sinclair get the facts right, or was it just a novel?" That is a fair question about any novel. The best test is what the government's own investigators found, which comes next.

The president and the investigators

President Theodore Roosevelt sent two men to Chicago to check: "labor commissioner Charles Neill and social reformer James Reynolds," as History.com describes them. They reported, "We saw meat shoveled from filthy wooden floors."[38] On June 4, 1906, Roosevelt sent their report to Congress with a message of his own. He wrote, "The conditions shown by even this short inspection to exist in the Chicago stock yards are revolting." He added, "Under existing law the National Government has no power to enforce inspection," and "A law is needed which will enable the inspectors of the general Government to inspect and supervise."[39] The Library of Congress sums up the result: the investigators "reported that conditions were at least as bad as Sinclair had reported."[40]

Roosevelt was no fan of Sinclair's politics. According to History.com, he "had no patience for socialism," but he told Sinclair, "I bear no love for those gentlemen, for I ate the meat they canned for the army in Cuba."[41] That was a reference to the embalmed beef scandal in Chapter 1.

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[37] James Harvey Young, "The Long Struggle for the Law," published by FDA, content current as of February 6, 2018. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/long-struggle-law. Accessed November 12, 2026.

[38] Christopher Klein, "How Upton Sinclair's 'The Jungle' Led to US Food Safety Reforms," History.com, May 10, 2023, updated July 20, 2026. https://www.history.com/articles/upton-sinclair-the-jungle-us-food-safety-reforms. Accessed November 12, 2026.

[39] Theodore Roosevelt, "Special Message" to Congress, June 4, 1906, The American Presidency Project, University of California, Santa Barbara. https://www.presidency.ucsb.edu/documents/special-message-401. Accessed November 12, 2026.

[40] Claire D'Mura, "Harvey Wiley and the Pure Food Movement," Inside Adams blog, Library of Congress, December 13, 2024. https://blogs.loc.gov/inside_adams/2024/12/harvey-wiley-and-the-pure-food-movement/. Accessed November 12, 2026.

[41] Christopher Klein, "How Upton Sinclair's 'The Jungle' Led to US Food Safety Reforms," History.com, May 10, 2023, updated July 20, 2026. https://www.history.com/articles/upton-sinclair-the-jungle-us-food-safety-reforms. Accessed November 12, 2026.

Notice one thing Roosevelt did not claim. On chemicals, his message said, "It is not yet possible to report on the alleged abuses in the use of deleterious chemical compounds."[42] He stuck to what the inspection had shown.

Roosevelt's message urged Congress to pass the "Beveridge amendment," the meat inspection measure in the Senate, named for its sponsor, Senator Albert Beveridge.[43] [His state, Indiana, is widely reported but was not on the page I read.]

June 30, 1906

On June 30, 1906, Roosevelt signed the Food and Drugs Act, which people nicknamed the Wiley Act.[44] The Meat Inspection Act passed the same day.[45] Most sources give June 30 as the date. One FDA biography page gives June 6 in a footnote, which looks like a typo, because the FDA's other history pages and outside histories all say June 30.[46] The new food law took effect on January 1, 1907.[47]

What did the 1906 food law do? According to the FDA:

- It "prohibited the interstate transport of unlawful food and drugs under penalty of seizure."
- A food or drug label "could not be false or misleading in any particular."

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[42] Theodore Roosevelt, "Special Message" to Congress, June 4, 1906, The American Presidency Project, University of California, Santa Barbara. https://www.presidency.ucsb.edu/documents/special-message-401. Accessed November 12, 2026.

[43] Theodore Roosevelt, "Special Message" to Congress, June 4, 1906, The American Presidency Project, University of California, Santa Barbara. https://www.presidency.ucsb.edu/documents/special-message-401. Accessed November 12, 2026.

[44] FDA, "Part I: The 1906 Food and Drugs Act and Its Enforcement," April 24, 2019. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/part-i-1906-food-and-drugs-act-and-its-enforcement. Accessed November 12, 2026.

[45] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[46] FDA, "Harvey Washington Wiley, M.D.," FDA Leadership 1907 to Today, February 24, 2020. https://www.fda.gov/about-fda/fda-leadership-1907-today/harvey-wiley. Accessed November 12, 2026.

[47] Claire D'Mura, "Harvey Wiley and the Pure Food Movement," Inside Adams blog, Library of Congress, December 13, 2024. https://blogs.loc.gov/inside_adams/2024/12/harvey-wiley-and-the-pure-food-movement/. Accessed November 12, 2026.

- It "prohibited the addition of any ingredients that would substitute for the food, conceal damage, pose a health hazard," among other things.
- For drugs, the presence and amount of eleven dangerous ingredients, including alcohol, heroin and cocaine, had to be listed on the label.[48]

Wiley's Bureau of Chemistry was put in charge of the food law.[49] The meat law took a different path. It required federal inspectors in meat-packing houses, run by the Department of Agriculture.[50] That split, one agency for most food and another for meat, is still with us. Chapter 4 explains why it matters.

What happened to Wiley

Wiley won the law but lost many of the fights over enforcing it. The FDA notes that his authority was diluted when a Board of Food and Drug Inspection was created in 1907 and a Referee Board of outside scientists in 1908.[51] His tenure "was marked by controversy over the administration of the 1906 statute," the FDA says. In 1912, he left government and took over the laboratories of Good Housekeeping Magazine.[52] One FDA page says he "resigned" and another says he "retired"; both agree it was 1912.[53,54]

Person	Role	What they did	Source

[48] FDA, "Part I: The 1906 Food and Drugs Act and Its Enforcement," April 24, 2019. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/part-i-1906-food-and-drugs-act-and-its-enforcement. Accessed November 12, 2026.

[49] FDA, "Part I: The 1906 Food and Drugs Act and Its Enforcement," April 24, 2019. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/part-i-1906-food-and-drugs-act-and-its-enforcement. Accessed November 12, 2026.

[50] USDA Food Safety and Inspection Service (FSIS), home page, "Food Safety Facts." https://www.fsis.usda.gov/. Accessed November 12, 2026.

[51] FDA, "Part I: The 1906 Food and Drugs Act and Its Enforcement," April 24, 2019. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/part-i-1906-food-and-drugs-act-and-its-enforcement. Accessed November 12, 2026.

[52] FDA, "Harvey Washington Wiley, M.D.," FDA Leadership 1907 to Today, February 24, 2020. https://www.fda.gov/about-fda/fda-leadership-1907-today/harvey-wiley. Accessed November 12, 2026.

[53] FDA, "Harvey Washington Wiley, M.D.," FDA Leadership 1907 to Today, February 24, 2020. https://www.fda.gov/about-fda/fda-leadership-1907-today/harvey-wiley. Accessed November 12, 2026.

[54] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

Person	Role	What they did	Source
Harvey W. Wiley	Chief chemist, Department of Agriculture, 1883 to 1912	Led the pure food campaign and the 1902 feeding trials; first enforcer of the 1906 law	FDA[55]; Library of Congress[56]
Upton Sinclair	Novelist	Wrote The Jungle (1905 to 1906)	History.com[57]
Theodore Roosevelt	President	Sent investigators to Chicago; signed the 1906 laws	Roosevelt message[58]; FDA[59]
Charles P. Neill and James B. Reynolds	Federal investigators	Inspected Chicago stockyards in 1906	Roosevelt message[60]
Albert Beveridge	U.S. Senator	Sponsored the meat inspection amendment	Roosevelt message[61]

[55] FDA, "Harvey Washington Wiley, M.D.," FDA Leadership 1907 to Today, February 24, 2020. https://www.fda.gov/about-fda/fda-leadership-1907-today/harvey-wiley. Accessed November 12, 2026.

[56] Claire D'Mura, "Harvey Wiley and the Pure Food Movement," Inside Adams blog, Library of Congress, December 13, 2024. https://blogs.loc.gov/inside_adams/2024/12/harvey-wiley-and-the-pure-food-movement/. Accessed November 12, 2026.

[57] Christopher Klein, "How Upton Sinclair's 'The Jungle' Led to US Food Safety Reforms," History.com, May 10, 2023, updated July 20, 2026. https://www.history.com/articles/upton-sinclair-the-jungle-us-food-safety-reforms. Accessed November 12, 2026.

[58] Theodore Roosevelt, "Special Message" to Congress, June 4, 1906, The American Presidency Project, University of California, Santa Barbara. https://www.presidency.ucsb.edu/documents/special-message-401. Accessed November 12, 2026.

[59] FDA, "Part I: The 1906 Food and Drugs Act and Its Enforcement," April 24, 2019. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/part-i-1906-food-and-drugs-act-and-its-enforcement. Accessed November 12, 2026.

[60] Theodore Roosevelt, "Special Message" to Congress, June 4, 1906, The American Presidency Project, University of California, Santa Barbara. https://www.presidency.ucsb.edu/documents/special-message-401. Accessed November 12, 2026.

[61] Theodore Roosevelt, "Special Message" to Congress, June 4, 1906, The American Presidency Project, University of California, Santa Barbara.

Chapter 3: From 1938 to 1990

The 1906 law was a start, but it had holes. The next big law came after a tragedy that had nothing to do with food at all.

A poisonous medicine and the 1938 law

In 1937, a company sold a liquid form of a sulfa drug called Elixir Sulfanilamide. The liquid that dissolved the drug was diethylene glycol, a poison related to antifreeze. According to the FDA's Milestones page, the elixir killed 107 people, many of them children.[62] An older FDA history puts it as "the deaths of more than 100 people in 15 states."[63]

The company was the S.E. Massengill Co. of Bristol, Tennessee. Its chemist dissolved the drug in "diethylene glycol, a chemical normally used as an antifreeze," which "is a deadly poison." No one tested the mixture on animals first, and nothing in the law said they had to. "At the time the food and drugs law did not require that safety studies be done on new drugs," the FDA history explains. The agency could act only on a technicality, that the word "elixir" implied alcohol and the product had none. "Twenty-five seizures were made under federal law."[64] "The drug and the deaths led to the passage of the 1938 Food, Drug, and Cosmetic Act."[65]

Congress responded with the Federal Food, Drug, and Cosmetic Act. President Franklin D. Roosevelt signed it on June 25, 1938.[66] Most people remember it as a drug law, but it also changed food rules. The FDA's history says the law "mandated legally enforceable food

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https://www.presidency.ucsb.edu/documents/special-message-401. Accessed November 12, 2026.

[62] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[63] Carol Ballentine, "Sulfanilamide Disaster," FDA Consumer, June 1981, reprinted by FDA, content current as of January 31, 2018. https://www.fda.gov/about-fda/histories-product-regulation/sulfanilamide-disaster. Accessed November 12, 2026.

[64] Carol Ballentine, "Sulfanilamide Disaster," FDA Consumer, June 1981, reprinted by FDA, content current as of January 31, 2018. https://www.fda.gov/about-fda/histories-product-regulation/sulfanilamide-disaster. Accessed November 12, 2026.

[65] Carol Ballentine, "Sulfanilamide Disaster," FDA Consumer, June 1981, reprinted by FDA, content current as of January 31, 2018. https://www.fda.gov/about-fda/histories-product-regulation/sulfanilamide-disaster. Accessed November 12, 2026.

[66] FDA, "Part II: 1938, Food, Drug, Cosmetic Act," March 15, 2019. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/part-ii-1938-food-drug-cosmetic-act. Accessed November 12, 2026.

standards," "formally authorized factory inspections," and "added injunctions to the enforcement tools at the agency's disposal."[67] The Milestones page describes the food standards as "standards of identity, quality, and fill-of-container."[68]

What is a standard of identity? It is a legal recipe. "The first food standards to be issued under the 1938 act were for canned tomato products," according to the FDA, and the Milestones page dates them to 1939.[69,70] Under these recipe standards, "a food that varied from the recipe would have to be labeled an imitation."[71] [Many staple foods still have standards of identity today; I did not check the current list for this book.]

A new home for the FDA

The agency also moved. In 1940, the "FDA transferred from the Department of Agriculture to the Federal Security Agency." In 1953, the "Federal Security Agency becomes the Department of Health, Education, and Welfare (HEW)."[72] HEW was later split, and the FDA now sits in the Department of Health and Human Services (HHS). [The date of that later split was not checked for this book.] The move matters for the story in Chapter 4. After 1940, food safety lived in two departments: the FDA outside Agriculture, and meat inspection still inside it.

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[67] FDA, "Part II: 1938, Food, Drug, Cosmetic Act," March 15, 2019. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/part-ii-1938-food-drug-cosmetic-act. Accessed November 12, 2026.

[68] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[69] FDA, "Part III: Drugs and Foods Under the 1938 Act and Its Amendments," content current as of February 1, 2018. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/part-iii-drugs-and-foods-under-1938-act-and-its-amendments. Accessed November 12, 2026.

[70] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[71] FDA, "Part III: Drugs and Foods Under the 1938 Act and Its Amendments," content current as of February 1, 2018. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/part-iii-drugs-and-foods-under-1938-act-and-its-amendments. Accessed November 12, 2026.

[72] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

The agency also got its modern name in this period. In 1927, the Bureau of Chemistry was split, and its law enforcement work went to a new Food, Drug, and Insecticide Administration. In 1930, that name was shortened to the Food and Drug Administration.[73]

Additives and the Delaney Clause

After World War II, chemistry changed the grocery store. New preservatives, emulsifiers and flavors came into use fast. In 1950, the "Delaney Committee starts congressional investigation of the safety of chemicals in foods and cosmetics," in the FDA's words.[74] The hearings, led by Representative James Delaney, led to "a series of laws addressing pesticide residues (1954), food additives (1958), and color additives (1960)."[75] The first of those, the 1954 Miller Pesticide Amendment, "spells out procedures for setting safety limits for pesticide residues on raw agricultural commodities."[76]

The same year, Congress dealt with an older fight: butter versus margarine. The 1950 Oleomargarine Act "requires prominent labeling of colored oleomargarine, to distinguish it from butter."[77] It is a reminder that labeling fights are not new.

In 1958, Congress passed the Food Additives Amendment. It required makers of new food additives to establish safety before using them. It also included the "Delaney proviso," which bars approval of any food additive shown to induce cancer in people or animals.[78] In the law's own words, as quoted by History.com, "No additive shall be deemed to be safe if it

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[73] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[74] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[75] FDA, "Part III: Drugs and Foods Under the 1938 Act and Its Amendments," content current as of February 1, 2018. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/part-iii-drugs-and-foods-under-1938-act-and-its-amendments. Accessed November 12, 2026.

[76] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[77] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[78] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

is found to induce cancer when ingested by man or animal."[79] The same year, the FDA published the first list of substances "generally recognized as safe," known as GRAS. It "contains nearly 200 substances."[80] Chapter 10 explains how GRAS works today and why it is controversial.

Colors: from coal tar to the 1960 law

Colors have their own history. The 1906 law "prohibited the use of poisonous or deleterious colors in confectionery." In 1907, USDA issued a decision "which contained a list of seven straight colors approved for use in food." The 1938 law required that coal-tar colors be listed as "harmless and suitable" and "made mandatory the previously voluntary certification program," meaning each batch had to be tested.[81]

Then came a Halloween scare. "In the fall of 1950, many children became ill from eating an orange Halloween candy containing 1-2% FD&C Orange No. 1," according to an FDA-published history.[82] [The same page does not say what action followed for Orange No. 1, so I do not state it.]

The Color Additive Amendment of 1960 required makers to establish the safety of color additives in foods, drugs and cosmetics.[83] Only colors "listed as 'suitable and safe'" could be used, and the law "prohibited the listing of a color additive shown to be a carcinogen." About 200 colors in use at the time "were provisionally listed" while they were studied.[84]

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[79] Becky Little, "How the Great Cranberry Scare of 1959 Set Off a Thanksgiving Panic," History.com, November 21, 2024, updated November 20, 2025. https://www.history.com/articles/great-cranberry-scare-thanksgiving-1959. Accessed November 12, 2026.

[80] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[81] Julie N. Barrows, Arthur L. Lipman and Catherine J. Bailey, "Color Additives History," reprinted by FDA from Food Safety Magazine (2003), content current as of November 3, 2017. https://www.fda.gov/industry/color-additives/color-additives-history. Accessed November 12, 2026.

[82] Julie N. Barrows, Arthur L. Lipman and Catherine J. Bailey, "Color Additives History," reprinted by FDA from Food Safety Magazine (2003), content current as of November 3, 2017. https://www.fda.gov/industry/color-additives/color-additives-history. Accessed November 12, 2026.

[83] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[84] Julie N. Barrows, Arthur L. Lipman and Catherine J. Bailey, "Color Additives History," reprinted by FDA from Food Safety Magazine (2003), content current as of November 3,

The Delaney rule applies to colors too. That is why, 65 years later, the FDA revoked Red No. 3 in January 2025 under the Delaney Clause, even though the FDA itself says there is "no evidence showing FD&C Red No. 3 causes cancer in humans."[85] Chapter 11 tells that story.

The cranberry scare

The Delaney Clause got its first big public test right before Thanksgiving. On November 9, 1959, Arthur Flemming, the Secretary of Health, Education, and Welfare, warned at a press conference that some cranberries were contaminated with a weed killer called aminotriazole.[86] The FDA's timeline says the cranberry crop was recalled three weeks before Thanksgiving for testing.[87]

Politicians tried to calm people down. Vice President Richard Nixon ate four helpings of cranberries at a dinner in Wisconsin and said, "I see no reason for hysteria over cranberries on any consumer's part." Senator John F. Kennedy drank two glasses of cranberry juice the same night.[88]

You might ask, "Was the government right or wrong?" Both sides of that argument have a point. The rat findings were real, and the law said what it said. Critics argue that the warning was out of proportion to the risk from eating cranberry sauce once a year. The scare is a good example of a tension that runs through this whole book. A strict rule is simple and protective. It can also cause panic or ban things that may carry very small risks.

2017. https://www.fda.gov/industry/color-additives/color-additives-history. Accessed November 12, 2026.

[85] FDA, "FD&C Red No. 3," content current as of October 5, 2026. https://www.fda.gov/industry/color-additives/fdc-red-no-3. Accessed November 12, 2026.

[86] Becky Little, "How the Great Cranberry Scare of 1959 Set Off a Thanksgiving Panic," History.com, November 21, 2024, updated November 20, 2025. https://www.history.com/articles/great-cranberry-scare-thanksgiving-1959. Accessed November 12, 2026.

[87] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[88] Becky Little, "How the Great Cranberry Scare of 1959 Set Off a Thanksgiving Panic," History.com, November 21, 2024, updated November 20, 2025. https://www.history.com/articles/great-cranberry-scare-thanksgiving-1959. Accessed November 12, 2026.

Honest packages

In 1966, Congress passed the Fair Packaging and Labeling Act, which "requires all consumer products in interstate commerce to be honestly and informatively labeled, with FDA enforcing provisions on foods."[89] Rules about what the net weight statement must say and where it goes trace back to laws like this one. [That last point is my general summary, not a quote.]

Sweeteners and the GRAS review

In 1969, the FDA banned the artificial sweetener cyclamate. The same year, the White House Conference on Food, Nutrition, and Health recommended a systematic review of GRAS substances, and President Nixon ordered the FDA to review its GRAS list.[90]

The Nutrition Facts label

For most of the 1900s, packaged food did not have to tell you how many calories or how much fat was inside. That changed with the Nutrition Labeling and Education Act of 1990. According to the FDA, it "requires all packaged foods to bear nutrition labeling and all health claims for foods" to be consistent with terms the government defines.[91] The FDA's Milestones page lists the required "Nutrition facts" panel under 1992.[92] The label was updated again in 2016, which Chapter 6 covers.[93]

What this history teaches

Look at the pattern. Almost every major food law followed a disaster or a scandal: swill milk, The Jungle, a poisoned medicine, a cancer scare. Congress tends to act after people get

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[89] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[90] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[91] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[92] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[93] FDA, "Changes to the Nutrition Facts Label," content current as of March 28, 2024. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/changes-nutrition-facts-label. Accessed November 12, 2026.

hurt, not before. That pattern continues with the 1993 hamburger outbreak and the 2011 food safety law in Part Five.

Year	Law or action	What it did	Source
1906	Food and Drugs Act; Meat Inspection Act	Banned adulterated and misbranded food in interstate trade; federal meat inspection	FDA[94]; FDA Milestones[95]
1927 and 1930	Bureau of Chemistry split; renamed FDA	Created the agency name we use today	FDA Milestones[96]
1938	Federal Food, Drug, and Cosmetic Act	Food standards, factory inspections, injunctions	FDA[97]
1940	FDA moves to the Federal Security Agency	FDA leaves the Department of Agriculture	FDA Milestones[98]
1954	Miller Pesticide Amendment	Procedures for safe pesticide residue limits on crops	FDA Milestones[99]
1958	Food Additives	Makers must establish safety	FDA Milestones[100]

[94] FDA, "Part I: The 1906 Food and Drugs Act and Its Enforcement," April 24, 2019. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/part-i-1906-food-and-drugs-act-and-its-enforcement. Accessed November 12, 2026.

[95] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[96] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[97] FDA, "Part II: 1938, Food, Drug, Cosmetic Act," March 15, 2019. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/part-ii-1938-food-drug-cosmetic-act. Accessed November 12, 2026.

[98] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[99] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[100] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

Year	Law or action	What it did	Source
	Amendment and Delaney proviso; first GRAS list	of new additives; no additive that induces cancer	
1959	Cranberry scare	First big public test of cancer rules	FDA Milestones[101]; History.com[102]
1960	Color Additive Amendment	Makers must establish safety of colors	FDA Milestones[103]
1966	Fair Packaging and Labeling Act	Honest, informative labels on consumer products	FDA Milestones[104]
1969	Cyclamate banned; GRAS review ordered	Review of older "safe" ingredients	FDA Milestones[105]
1990	Nutrition Labeling and Education Act	Nutrition labels on packaged food; rules for health claims	FDA Milestones[106]

Part Two: Who Checks Your Food Today

Facts about agencies, staffing and inspections in this part are current as of the dates of the sources cited, and no later than November 12, 2026.

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[101] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[102] Becky Little, "How the Great Cranberry Scare of 1959 Set Off a Thanksgiving Panic," History.com, November 21, 2024, updated November 20, 2025. https://www.history.com/articles/great-cranberry-scare-thanksgiving-1959. Accessed November 12, 2026.

[103] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[104] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[105] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[106] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

Chapter 4: The Split System

You might ask, "Isn't there one agency in charge of food?" No, there isn't. GAO, the watchdog that works for Congress, says that "at least 30 federal laws govern the safety and quality of the U.S. food supply" and that "collectively, 15 federal agencies administer these laws."[107] State and local health departments, tribes and territories add another layer on top.[108]

GAO has kept food safety on its "High-Risk List" since 2007. That list flags government programs GAO considers at high risk of waste, fraud, abuse or mismanagement, or in need of major change.[109] In its 2025 update, GAO listed "Improving Federal Oversight of Food Safety" and pointed to "fragmentation among 15 different federal agencies and at least 30 federal laws." It rated the area as showing no change since 2023.[110]

The two big players

Two agencies do most of the work.

The FDA. The Food and Drug Administration, part of HHS, covers "all domestic and imported food products, except for most meats and poultry," according to the Congressional Research Service (CRS). That includes all seafood except catfish, shell eggs,

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[107] U.S. Government Accountability Office (GAO), "Food Safety: Status of Foodborne Illness in the U.S.," GAO-25-107606, February 3, 2025. https://www.gao.gov/assets/gao-25-107606.pdf. Accessed November 12, 2026.

[108] U.S. Government Accountability Office (GAO), "Food Safety: Status of Foodborne Illness in the U.S.," GAO-25-107606, February 3, 2025. https://www.gao.gov/assets/gao-25-107606.pdf. Accessed November 12, 2026.

[109] U.S. Government Accountability Office (GAO), "Food Safety: Status of Foodborne Illness in the U.S.," GAO-25-107606, February 3, 2025. https://www.gao.gov/assets/gao-25-107606.pdf. Accessed November 12, 2026.

[110] GAO, "High-Risk Series: Heightened Attention Could Save Billions More and Improve Government Efficiency and Effectiveness," GAO-25-107743, February 25, 2025. https://www.gao.gov/products/gao-25-107743. Accessed November 12, 2026.

fruits and vegetables, dairy, grains, bottled water and packaged foods.[111] GAO says FDA-regulated foods make up "nearly 80 percent" of the food supply.[112]

USDA's FSIS. The Food Safety and Inspection Service, part of the Department of Agriculture, covers "most meat and poultry and some egg and fish products," in CRS's words. That means meat, poultry, processed egg products (liquid, frozen and dried eggs) and, since the 2008 farm bill, farmed catfish.[113]

Why the split?

The split goes back to 1906. As Chapter 2 explained, Congress passed two laws on the same day. The food law went to the Bureau of Chemistry, which grew into the FDA. The meat law went to the Department of Agriculture, which still runs it through FSIS.[114,115] Each law grew over the next century, and so did each agency. Nobody ever went back and merged them.

The two systems work very differently, and this is the part most people do not know.

	FDA	USDA FSIS
What it covers	About 80 percent of food: produce, seafood, dairy, shell eggs, packaged foods	Meat, poultry, processed egg products, catfish
How often it inspects	Periodic. Law sets targets of once every 3 years for high-risk plants, once every 5 years for others	Continuous. An inspector must examine every animal at slaughter, and processing plants are visited every day they run

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[111] Congressional Research Service (CRS), "The Federal Food Safety System: A Primer," RS22600, December 16, 2016 (copy hosted by EveryCRSReport.com). https://www.everycrsreport.com/files/20161216_RS22600_910156eb73ec572f200962acf53119bdfacf28ba.pdf. Accessed November 12, 2026.

[112] U.S. Government Accountability Office (GAO), "Food Safety: Status of Foodborne Illness in the U.S.," GAO-25-107606, February 3, 2025. https://www.gao.gov/assets/gao-25-107606.pdf. Accessed November 12, 2026.

[113] Congressional Research Service (CRS), "The Federal Food Safety System: A Primer," RS22600, December 16, 2016 (copy hosted by EveryCRSReport.com). https://www.everycrsreport.com/files/20161216_RS22600_910156eb73ec572f200962acf53119bdfacf28ba.pdf. Accessed November 12, 2026.

[114] FDA, "Part I: The 1906 Food and Drugs Act and Its Enforcement," April 24, 2019. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/part-i-1906-food-and-drugs-act-and-its-enforcement. Accessed November 12, 2026.

[115] USDA Food Safety and Inspection Service (FSIS), home page, "Food Safety Facts." https://www.fsis.usda.gov/. Accessed November 12, 2026.

	FDA	USDA FSIS
Sources	GAO[116]; GAO[117]	CRS[118]

CRS describes meat and poultry inspection as "continuous (i.e., 100%) inspection." Under the law, "no animal may be slaughtered and dressed unless an inspector has examined it." Processing plants that inspectors visit daily are "considered to be under continuous inspection."[119] FSIS says it monitors about 7,100 establishments.[120]

Compare that to the FDA, which oversees about 75,000 domestic food facilities and about 125,000 foreign ones, according to GAO.[121] The difference is not about which food is riskier. It comes from how the two 1906 laws were written and how each one grew.

The odd results

The split leads to some strange results. You will often hear that the FDA handles a cheese pizza and USDA handles a pepperoni pizza, because the meat topping moves the product under FSIS. I looked for that example in GAO and CRS reports and did not find it in the parts I read, so I am marking the pizza example [Not verified]. What CRS does confirm is the general rule: products with meat or poultry go to FSIS, and most others go to the FDA. Shell

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[116] U.S. Government Accountability Office (GAO), "Food Safety: Status of Foodborne Illness in the U.S.," GAO-25-107606, February 3, 2025. https://www.gao.gov/assets/gao-25-107606.pdf. Accessed November 12, 2026.

[117] GAO, "Food Safety: FDA Should Strengthen Inspection Efforts to Protect the U.S. Food Supply," GAO-25-107571, January 8, 2025. https://www.gao.gov/products/gao-25-107571. Accessed November 12, 2026.

[118] Congressional Research Service (CRS), "The Federal Food Safety System: A Primer," RS22600, December 16, 2016 (copy hosted by EveryCRSReport.com). https://www.everycrsreport.com/files/20161216_RS22600_910156eb73ec572f200962acf53119bdfacf28ba.pdf. Accessed November 12, 2026.

[119] Congressional Research Service (CRS), "The Federal Food Safety System: A Primer," RS22600, December 16, 2016 (copy hosted by EveryCRSReport.com). https://www.everycrsreport.com/files/20161216_RS22600_910156eb73ec572f200962acf53119bdfacf28ba.pdf. Accessed November 12, 2026.

[120] USDA Food Safety and Inspection Service (FSIS), home page, "Food Safety Facts." https://www.fsis.usda.gov/. Accessed November 12, 2026.

[121] U.S. Government Accountability Office (GAO), "Food Safety: Status of Foodborne Illness in the U.S.," GAO-25-107606, February 3, 2025. https://www.gao.gov/assets/gao-25-107606.pdf. Accessed November 12, 2026.

eggs go to the FDA, while liquid and dried egg products go to USDA. Most fish goes to the FDA, while catfish goes to USDA.[122]

Who else is involved?

Agency	Food safety job	Source
CDC (part of HHS)	Tracks illness and investigates outbreaks. CRS says it is responsible for "monitoring, identifying, and investigating foodborne disease problems."	CRS[123]
EPA	Sets limits on pesticides. CRS describes its job as "ensuring that the chemicals used on food crops do not endanger public health."	CRS[124]
National Marine Fisheries Service (Commerce Department)	Runs "a voluntary seafood inspection and grading program" that companies pay for	CRS[125]
FTC	Polices false or misleading food advertising (Chapter 7)	FTC cases, Chapter 7
USDA Agricultural Marketing Service	Runs the organic program and the bioengineered food label (Chapter 7)	USDA, Chapter 7
States, counties and cities	Inspect restaurants and grocery stores, and do many FDA inspections under contract	FDA[126]; GAO[127]

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[122] Congressional Research Service (CRS), "The Federal Food Safety System: A Primer," RS22600, December 16, 2016 (copy hosted by EveryCRSReport.com). https://www.everycrsreport.com/files/20161216_RS22600_910156eb73ec572f200962acf53119bdfacf28ba.pdf. Accessed November 12, 2026.

[123] Congressional Research Service (CRS), "The Federal Food Safety System: A Primer," RS22600, December 16, 2016 (copy hosted by EveryCRSReport.com). https://www.everycrsreport.com/files/20161216_RS22600_910156eb73ec572f200962acf53119bdfacf28ba.pdf. Accessed November 12, 2026.

[124] Congressional Research Service (CRS), "The Federal Food Safety System: A Primer," RS22600, December 16, 2016 (copy hosted by EveryCRSReport.com). https://www.everycrsreport.com/files/20161216_RS22600_910156eb73ec572f200962acf53119bdfacf28ba.pdf. Accessed November 12, 2026.

[125] Congressional Research Service (CRS), "The Federal Food Safety System: A Primer," RS22600, December 16, 2016 (copy hosted by EveryCRSReport.com). https://www.everycrsreport.com/files/20161216_RS22600_910156eb73ec572f200962acf53119bdfacf28ba.pdf. Accessed November 12, 2026.

[126] FDA, "Adoption of the FDA Food Code by State and Territorial Agencies Responsible for the Oversight of Restaurants and/or Retail Food Stores," content current as of October 29, 2026. https://www.fda.gov/food/fda-food-code/adoption-fda-food-code-state-and-

Restaurants and grocery stores

When a health inspector comes to your favorite restaurant, that person almost always works for your city, county or state, not the federal government. The FDA writes a model rulebook called the Food Code, and states decide whether to adopt it. The FDA describes it as "a model that assists food control jurisdictions at all levels of government," and says "local, state, tribal, and federal regulators use the FDA Food Code as a model to develop or update their own food safety rules." The FDA moved "to a four-year interval between complete Food Code editions," and "the 2026 Food Code is the most recent full edition."[128] As of the end of 2025, the FDA says "fourteen states have reached optimal adoption status," meaning they adopted a recent version with few changes.[129] Other states use older versions or their own rules.

States also help the FDA with factories. GAO found that from fiscal years 2018 through 2023, about a third of the FDA's routine surveillance inspections were done by states under contract. [This figure comes from a summary of the GAO report, not from text I read word for word, so I am marking it Not verified until it is checked against the report itself.][130]

What the two sides say about the split

Those who want one agency. Some members of Congress, consumer groups and food safety advocates argue the split wastes money and leaves gaps. GAO has said the "fragmented nature of the federal food safety oversight system causes inconsistent

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territorial-agencies-responsible-oversight-restaurants-and-retail. Accessed November 12, 2026.

[127] U.S. Government Accountability Office (GAO), "Food Safety: Status of Foodborne Illness in the U.S.," GAO-25-107606, February 3, 2025. https://www.gao.gov/assets/gao-25-107606.pdf. Accessed November 12, 2026.

[128] FDA, "FDA Food Code," content current as of October 22, 2026. https://www.fda.gov/food/retail-food-protection/fda-food-code. Accessed November 12, 2026.

[129] FDA, "Adoption of the FDA Food Code by State and Territorial Agencies Responsible for the Oversight of Restaurants and/or Retail Food Stores," content current as of October 29, 2026. https://www.fda.gov/food/fda-food-code/adoption-fda-food-code-state-and-territorial-agencies-responsible-oversight-restaurants-and-retail. Accessed November 12, 2026.

[130] U.S. Government Accountability Office (GAO), "Food Safety: Status of Foodborne Illness in the U.S.," GAO-25-107606, February 3, 2025. https://www.gao.gov/assets/gao-25-107606.pdf. Accessed November 12, 2026.

oversight, ineffective coordination, and inefficient use of resources."[131] GAO recommended a national food safety strategy in 2017. As of January 2025, it said, the White House budget office had no plans to create one.[132] On December 10, 2025, Senator Dick Durbin and Representative Rosa DeLauro, both Democrats, introduced the Federal Food Administration Act. It would create a new food agency inside HHS with its own Senate-confirmed commissioner and move the FDA's food programs into it. Their press release lists support from Consumer Reports, the Consumer Federation of America, the Environmental Working Group and STOP Foodborne Illness.[133]

Those who are cautious. Others argue that reorganizing agencies costs money and attention without fixing the real problems, such as staffing and funding, and that meat inspection works because it is separate and constant. I did not find a recent official or nonpartisan report that makes this case in detail, so I am noting it as a common argument rather than citing a specific source. Chapter 19 comes back to this debate.

Chapter 5: Inspections, Imports and the Food Safety Modernization Act

The 2011 law

On January 4, 2011, President Barack Obama signed the FDA Food Safety Modernization Act, known as FSMA (pronounced "FIZZ-muh"). It is Public Law 111-353.[134,135] The FDA

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[131] U.S. Government Accountability Office (GAO), "Food Safety: Status of Foodborne Illness in the U.S.," GAO-25-107606, February 3, 2025. https://www.gao.gov/assets/gao-25-107606.pdf. Accessed November 12, 2026.

[132] U.S. Government Accountability Office (GAO), "Food Safety: Status of Foodborne Illness in the U.S.," GAO-25-107606, February 3, 2025. https://www.gao.gov/assets/gao-25-107606.pdf. Accessed November 12, 2026.

[133] Office of Senator Dick Durbin, "Durbin, DeLauro Introduce the Federal Food Administration Act," press release, December 10, 2025. https://www.durbin.senate.gov/newsroom/press-releases/durbin-delauro-introduce-the-federal-food-administration-act. Accessed November 12, 2026.

[134] Public Law 111-353, FDA Food Safety Modernization Act, January 4, 2011, 124 Stat. 3885 (GovInfo). https://www.govinfo.gov/content/pkg/PLAW-111publ353/pdf/PLAW-111publ353.pdf. Accessed November 12, 2026.

[135] FDA, "Background on the FDA Food Safety Modernization Act (FSMA)," content current as of January 30, 2018. https://www.fda.gov/food/food-safety-modernization-act-fsma/background-fda-food-safety-modernization-act-fsma. Accessed November 12, 2026.

describes its main idea this way: "It enables FDA to focus more on preventing food safety problems rather than relying primarily on reacting to problems after they occur."[136]

What did FSMA do? Here are the main pieces, according to the FDA:

- **Mandatory recall power.** For the first time, the FDA got the "authority to issue a mandatory recall when a company fails to voluntarily recall unsafe food after being asked to by FDA."[137] Before 2011, the FDA could ask, warn and go to court, but it could not order a food recall on its own.
- **Inspection targets.** "All high-risk domestic facilities must be inspected within five years of enactment and no less than every three years thereafter." For foreign plants, the law called for at least 600 inspections in the first year, doubling each year for five years.[138]
- **Prevention rules.** Over the next several years, the FDA wrote rules for preventive controls in food plants, for the safe growing of produce, for importers to verify their foreign suppliers, and for tracing foods through the supply chain.[139] The next section explains the main ones.

The prevention rules, in plain words

FSMA's big idea was to make companies plan for problems before they happen. Three of the rules it produced do most of that work.

Preventive controls for food plants. This rule "became final in September 2015." It requires covered food facilities "to have a food safety plan." The plan must include a hazard analysis that considers "known or reasonably foreseeable biological, chemical, and physical hazards," written preventive controls for those hazards, monitoring, corrective actions, and

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[136] FDA, "Background on the FDA Food Safety Modernization Act (FSMA)," content current as of January 30, 2018. https://www.fda.gov/food/food-safety-modernization-act-fsma/background-fda-food-safety-modernization-act-fsma. Accessed November 12, 2026.

[137] FDA, "Background on the FDA Food Safety Modernization Act (FSMA)," content current as of January 30, 2018. https://www.fda.gov/food/food-safety-modernization-act-fsma/background-fda-food-safety-modernization-act-fsma. Accessed November 12, 2026.

[138] FDA, "Background on the FDA Food Safety Modernization Act (FSMA)," content current as of January 30, 2018. https://www.fda.gov/food/food-safety-modernization-act-fsma/background-fda-food-safety-modernization-act-fsma. Accessed November 12, 2026.

[139] FDA, "Food Safety Modernization Act (FSMA)," content current as of February 5, 2024. https://www.fda.gov/food/guidance-regulation-food-and-dietary-supplements/food-safety-modernization-act-fsma. Accessed November 12, 2026.

a written recall plan.[140] The types of controls include process controls, such as cooking temperatures, plus food allergen controls and sanitation controls.[141]

Produce safety on farms. This rule "went into effect January 26, 2016." It sets standards for growing, harvesting, packing and holding fruits and vegetables. For example, "untreated biological soil amendments of animal origin, such as raw manure, must be applied in a manner that does not contact covered produce during application." Farm workers who handle produce "must be trained on certain topics, including the importance of health and hygiene." Farmers must "take all measures reasonably necessary to identify and not harvest produce that is likely to be contaminated," for example by animals.[142]

Small farms are treated differently. Farms with "an average annual value of produce sold during the previous three-year period of $25,000 or less" are not covered, and some farms with food sales "averaging less than $500,000 per year" can qualify for an exemption with conditions.[143]

Checking foreign suppliers. The Foreign Supplier Verification Programs (FSVP) rule "requires importers to perform risk-based foreign supplier verification activities." Importers must verify that the food they bring in meets the same level of protection as U.S. rules, is not adulterated, and is properly labeled for allergens. They must also evaluate their suppliers, and reevaluate them "at least every three years."[144]

You might ask, "If companies write their own safety plans, who checks them?" That is the job of inspections, which is where the system has struggled.

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[140] FDA, "FSMA Final Rule for Preventive Controls for Human Food," content current as of August 11, 2026. https://www.fda.gov/food/food-safety-modernization-act-fsma/fsma-final-rule-preventive-controls-human-food. Accessed November 12, 2026.

[141] FDA, "FSMA Final Rule for Preventive Controls for Human Food," content current as of August 11, 2026. https://www.fda.gov/food/food-safety-modernization-act-fsma/fsma-final-rule-preventive-controls-human-food. Accessed November 12, 2026.

[142] FDA, "FSMA Final Rule on Produce Safety," content current as of November 13, 2024. https://www.fda.gov/food/food-safety-modernization-act-fsma/fsma-final-rule-produce-safety. Accessed November 12, 2026.

[143] FDA, "FSMA Final Rule on Produce Safety," content current as of November 13, 2024. https://www.fda.gov/food/food-safety-modernization-act-fsma/fsma-final-rule-produce-safety. Accessed November 12, 2026.

[144] FDA, "FSMA Final Rule on Foreign Supplier Verification Programs (FSVP) for Importers of Food for Humans and Animals," content current as of May 1, 2026. https://www.fda.gov/food/food-safety-modernization-act-fsma/fsma-final-rule-foreign-supplier-verification-programs-fsvp-importers-food-humans-and-animals. Accessed November 12, 2026.

Has the FDA met the inspection targets?

No. GAO looked at the numbers in a January 2025 report. It found that the FDA "has not met its domestic and foreign inspection targets since fiscal year 2018."[145]

Measure (fiscal years 2018 to 2023)	Number	Source
Average domestic food inspections per year	8,353	GAO[146]
Average foreign food inspections per year	917	GAO[147]
Foreign inspection target per year under FSMA	19,200	GAO[148]
Best foreign year (fiscal 2019)	1,727, about 9 percent of the target	GAO[149]
Share of high-risk domestic plants not inspected on time	About 7 percent (2019), 40 percent (2020), 49 percent (2021)	GAO[150]
FDA food investigators, July 2024	432, about 90 percent of its staffing ceiling	GAO[151]

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[145] GAO, "Food Safety: FDA Should Strengthen Inspection Efforts to Protect the U.S. Food Supply," GAO-25-107571, January 8, 2025. https://www.gao.gov/products/gao-25-107571. Accessed November 12, 2026.

[146] GAO, "Food Safety: FDA Should Strengthen Inspection Efforts to Protect the U.S. Food Supply," GAO-25-107571, January 8, 2025. https://www.gao.gov/products/gao-25-107571. Accessed November 12, 2026.

[147] GAO, "Food Safety: FDA Should Strengthen Inspection Efforts to Protect the U.S. Food Supply," GAO-25-107571, January 8, 2025. https://www.gao.gov/products/gao-25-107571. Accessed November 12, 2026.

[148] GAO, "Food Safety: FDA Should Strengthen Inspection Efforts to Protect the U.S. Food Supply," GAO-25-107571, January 8, 2025. https://www.gao.gov/products/gao-25-107571. Accessed November 12, 2026.

[149] GAO, "Food Safety: FDA Should Strengthen Inspection Efforts to Protect the U.S. Food Supply," GAO-25-107571, January 8, 2025. https://www.gao.gov/products/gao-25-107571. Accessed November 12, 2026.

[150] GAO, "Food Safety: FDA Should Strengthen Inspection Efforts to Protect the U.S. Food Supply," GAO-25-107571, January 8, 2025. https://www.gao.gov/products/gao-25-107571. Accessed November 12, 2026.

[151] GAO, "Food Safety: FDA Should Strengthen Inspection Efforts to Protect the U.S. Food Supply," GAO-25-107571, January 8, 2025. https://www.gao.gov/products/gao-25-107571. Accessed November 12, 2026.

The jump in missed inspections in 2020 and 2021 lines up with the COVID-19 pandemic, when many inspections were paused. GAO made three recommendations to the FDA and asked Congress to set a realistic foreign inspection number. As of June 2026, GAO listed one of the FDA recommendations as implemented and the other two as still open.[152]

You might ask, "Is 19,200 foreign inspections even possible?" GAO itself asked Congress to update the target, which tells you the watchdog does not think the current number is realistic.[153]

What the inspector general found

A separate watchdog looked at domestic inspections. In May 2025, the HHS Office of Inspector General (OIG), which audits HHS agencies, issued a report on FDA inspections of U.S. food facilities. Its main findings, in its own words:[154]

- "FDA is conducting fewer inspections of food facilities compared to the number prior to the pandemic."
- "FDA did not inspect many facilities within the required timeframes."
- "FDA attempted to inspect thousands of facilities that were not in operation," which wastes inspectors' time.
- "FDA uncovered significant violations in 1 to 2 percent of facilities inspected each year."

The OIG made four recommendations, and the "FDA concurred with all four." As of the OIG's page, all four were still open.[155]

How should you read the 1 to 2 percent figure? It cuts both ways. Most facilities that were inspected did not have significant violations. But when the FDA cannot reach many facilities on time, the ones it misses are the ones nobody has checked.

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[152] GAO, "Food Safety: FDA Should Strengthen Inspection Efforts to Protect the U.S. Food Supply," GAO-25-107571, January 8, 2025. https://www.gao.gov/products/gao-25-107571. Accessed November 12, 2026.

[153] GAO, "Food Safety: FDA Should Strengthen Inspection Efforts to Protect the U.S. Food Supply," GAO-25-107571, January 8, 2025. https://www.gao.gov/products/gao-25-107571. Accessed November 12, 2026.

[154] HHS Office of Inspector General, "FDA Food Safety Inspections of Domestic Food Facilities," OEI-02-23-00300, May 30, 2025. https://oig.hhs.gov/reports/all/2025/fda-food-safety-inspections-of-domestic-food-facilities/. Accessed November 12, 2026.

[155] HHS Office of Inspector General, "FDA Food Safety Inspections of Domestic Food Facilities," OEI-02-23-00300, May 30, 2025. https://oig.hhs.gov/reports/all/2025/fda-food-safety-inspections-of-domestic-food-facilities/. Accessed November 12, 2026.

Imported food

About 15 percent of the U.S. food supply is imported, according to GAO's summary of FDA data.[156] For some foods, like seafood and fresh fruit, the share is much higher, but I did not find an official figure for those in the sources I read, so I leave the exact numbers out.

Who makes sure imports are safe? Mostly the companies. The FDA says importers "are responsible for ensuring that the products are safe, sanitary, and labeled" according to U.S. law.[157] FSMA added a program that requires importers to check their foreign suppliers.[158] The FDA also inspects some foreign plants and samples some shipments at the border, but as the table above shows, foreign inspections fall far short of what the law set out.

What happened in 2025?

In February 2025, the Trump administration began cutting federal staff. On February 17, 2025, Jim Jones, the FDA's deputy commissioner for human foods, resigned. In a letter reported by Food Safety Magazine, he said the firing of 89 staff in the foods program made it "fruitless for me to continue in this role."[159] His letter was addressed to the acting FDA commissioner at the time, Sara Brenner.[160]

On March 27, 2025, HHS announced a much larger restructuring. It said its "82,000 full-time employees will be reduced to 62,000," and that the "FDA will decrease its workforce

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[156] U.S. Government Accountability Office (GAO), "Food Safety: Status of Foodborne Illness in the U.S.," GAO-25-107606, February 3, 2025. https://www.gao.gov/assets/gao-25-107606.pdf. Accessed November 12, 2026.

[157] FDA, "Food Imports and Exports," content current as of August 14, 2020. https://www.fda.gov/food/guidance-regulation-food-and-dietary-supplements/food-imports-exports. Accessed November 12, 2026.

[158] FDA, "Food Safety Modernization Act (FSMA)," content current as of February 5, 2024. https://www.fda.gov/food/guidance-regulation-food-and-dietary-supplements/food-safety-modernization-act-fsma. Accessed November 12, 2026.

[159] Bailee Henderson, "FDA Leader Jim Jones Resigns After 89 'Indiscriminate' Firings in Human Foods Program," Food Safety Magazine, February 18, 2025. https://www.food-safety.com/articles/10138-fda-leader-jim-jones-resigns-after-89-indiscriminate-firings-in-human-foods-program. Accessed November 12, 2026.

[160] Bailee Henderson, "FDA Leader Jim Jones Resigns After 89 'Indiscriminate' Firings in Human Foods Program," Food Safety Magazine, February 18, 2025. https://www.food-safety.com/articles/10138-fda-leader-jim-jones-resigns-after-89-indiscriminate-firings-in-human-foods-program. Accessed November 12, 2026.

by approximately 3,500 full-time employees." HHS added: "This reduction will not affect drug, medical device, or food reviewers, nor will it impact inspectors."[161]

What happened to inspections? A ProPublica analysis of FDA's public inspection dashboard, published in November 2025, found that foreign food inspections through July 2025 were "nearly 30 percent lower" than in the same months of the two years before. In March 2025, they "dropped almost in half." ProPublica also says the FDA "refused to provide ProPublica with up-to-date inspection numbers."[162] That is journalism, not an official report. ProPublica also noted that the FDA usually conducted about 110 foreign food inspections a month before the drop. [I read this figure in the version republished by Undark; see the note.][163] Supporters of the cuts point to HHS's statement that inspectors were not part of the reduction.[164] Critics answer that inspectors depend on support staff, travel budgets and managers who were cut. [That last argument is my summary of the critics' position; I did not find it stated in an official document.] Chapter 17 tests the claim that "the 2025 cuts stopped FDA food inspections."

Meat and poultry oversight

GAO also looked at USDA in January 2025. It found that FSIS "has not finalized any new or updated standards for Campylobacter and other illness-causing pathogens" since it

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[161] HHS, "Fact Sheet: HHS' Transformation to Make America Healthy Again," March 27, 2025. https://www.hhs.gov/press-room/hhs-restructuring-doge-fact-sheet.html. Accessed November 12, 2026.

[162] Annie Waldman and Brandon Roberts, ProPublica, "U.S. Inspections of Foreign Food Facilities Hit New Low," republished by Undark, November 18, 2025. https://undark.org/2025/11/18/foreign-food-safety-inspections/. Accessed November 12, 2026.

[163] Annie Waldman and Brandon Roberts, ProPublica, "U.S. Inspections of Foreign Food Facilities Hit New Low," republished by Undark, November 18, 2025. https://undark.org/2025/11/18/foreign-food-safety-inspections/. Accessed November 12, 2026.

[164] HHS, "Fact Sheet: HHS' Transformation to Make America Healthy Again," March 27, 2025. https://www.hhs.gov/press-room/hhs-restructuring-doge-fact-sheet.html. Accessed November 12, 2026.

updated its Salmonella rules in 2018. Several proposed standards were paused.[165] GAO made five recommendations, all open as of its last update.[166]

In April 2025, FSIS withdrew a proposed rule that would have set new Salmonella limits for raw chicken and turkey. The withdrawal was published in the Federal Register on April 25, 2025.[167] Consumer groups criticized the decision. Poultry industry groups had opposed the proposal as costly and not based on solid science. Chapter 18 covers what has happened since.

Tracing food through the supply chain

When an outbreak happens, investigators need to trace a food back to the farm or plant it came from. FSMA told the FDA to write a rule for that. The FDA's final rule requires extra records for foods on a "Food Traceability List." The list includes soft cheeses (not hard cheeses), shell eggs, nut butters, fresh cucumbers, herbs, leafy greens, melons, peppers, sprouts and tomatoes, fresh tropical tree fruits, fresh-cut fruits and vegetables, many kinds of finfish, crustaceans, molluscan shellfish, and refrigerated ready-to-eat deli salads (not meat salads).[168] Many of these foods appear in the outbreaks in Chapter 16. The original compliance date was January 20, 2026. The FDA proposed pushing it back 30 months to July 20, 2028, and Congress directed the FDA not to enforce the rule before that date. The FDA says it intends to comply.[169]

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[165] GAO, "Food Safety: USDA Should Take Additional Actions to Strengthen Oversight of Meat and Poultry," GAO-25-107613, January 22, 2025 (reissued January 23, 2025). https://www.gao.gov/products/gao-25-107613. Accessed November 12, 2026.

[166] GAO, "Food Safety: USDA Should Take Additional Actions to Strengthen Oversight of Meat and Poultry," GAO-25-107613, January 22, 2025 (reissued January 23, 2025). https://www.gao.gov/products/gao-25-107613. Accessed November 12, 2026.

[167] USDA FSIS, "Salmonella Framework for Raw Poultry Products," withdrawal of proposed rule, Federal Register, April 25, 2025, document 2025-07187. https://www.federalregister.gov/documents/2025/04/25/2025-07187/salmonella-framework-for-raw-poultry-products. Accessed November 12, 2026.

[168] FDA, "Food Traceability List," content current as of July 24, 2026. https://www.fda.gov/food/food-safety-modernization-act-fsma/food-traceability-list. Accessed November 12, 2026.

[169] FDA, "FSMA Final Rule on Requirements for Additional Traceability Records for Certain Foods," content current as of November 4, 2026. https://www.fda.gov/food/food-safety-modernization-act-fsma/fsma-final-rule-requirements-additional-traceability-records-certain-foods. Accessed November 12, 2026.

The FDA's food program today

The FDA now runs its food work as a single "Human Foods Program," organized under a deputy commissioner for food. As of October 2026, the FDA lists Donald A. Prater as acting deputy commissioner for food.[170] Chapter 18 lists the program's 2026 priorities.

Part Three: Labels Decoded

Label rules in this part are current as of the dates of the sources cited, and no later than November 12, 2026.

Chapter 6: The Nutrition Facts Label and Serving Sizes

Turn over almost any package in the store and you will see the black-and-white Nutrition Facts box. Chapter 3 explained that the 1990 Nutrition Labeling and Education Act made it required on packaged foods.[171] This chapter explains how to read it and what changed in 2016.

What changed in 2016

The FDA updated the label in 2016. The biggest changes, according to the FDA, were these:[172]

- Calories and serving sizes got larger, bolder type.
- A new line for **added sugars** appeared, in grams and as a percent of the Daily Value. Added sugars are sugars put in during processing, such as table sugar or syrups, as opposed to sugars that occur naturally in fruit or milk.
- Serving sizes were updated.

Big companies, those with $10 million or more in yearly food sales, had to switch by January 1, 2020. Smaller companies had until January 1, 2021. Makers of single-ingredient sugars such as honey and maple syrup had until July 1, 2021.[173]

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[170] FDA, "Human Foods Program," content current as of October 1, 2026. https://www.fda.gov/about-fda/fda-organization/human-foods-program. Accessed November 12, 2026.

[171] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[172] FDA, "Changes to the Nutrition Facts Label," content current as of March 28, 2024. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/changes-nutrition-facts-label. Accessed November 12, 2026.

Why serving sizes look so big

You might ask, "Why does the label say a serving of ice cream is two-thirds of a cup? Isn't that a lot?" Here is the reason. By law, the FDA says, "serving sizes must be based on amounts of foods and beverages that people are actually eating, not what they should be eating."[174] A serving size on a label is a measuring stick, not a recommendation. When Americans started eating bigger portions, the serving sizes on labels went up to match.

That is one of the most misunderstood facts about food labels. The label is telling you what is in a typical portion, not telling you to eat that much.

Percent Daily Value

The "% Daily Value" column tells you how much of a day's worth of a nutrient one serving provides, based on a 2,000-calorie diet. The FDA gives a simple rule of thumb: "5% DV or less of a nutrient per serving is considered low," and "20% DV or more of a nutrient per serving is considered high."[175]

Sodium

The Nutrition Facts label also lists sodium, and the FDA is trying to bring it down across the food supply. According to the FDA, "average sodium intake in the U.S. is approximately 3,400 milligrams/day," while the earlier Dietary Guidelines advised people 14 and older to limit it to 2,300 milligrams a day. In October 2021 the FDA set voluntary "Phase I" targets for companies. On August 15, 2024, it issued a draft with new voluntary targets for "163 food categories" that "would reduce sodium intake to about 2,750 milligrams/day" if

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[173] FDA, "Changes to the Nutrition Facts Label," content current as of March 28, 2024. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/changes-nutrition-facts-label. Accessed November 12, 2026.

[174] FDA, "Changes to the Nutrition Facts Label," content current as of March 28, 2024. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/changes-nutrition-facts-label. Accessed November 12, 2026.

[175] FDA, "How to Understand and Use the Nutrition Facts Label," content current as of March 5, 2024. https://www.fda.gov/food/nutrition-facts-label/how-understand-and-use-nutrition-facts-label. Accessed November 12, 2026.

companies met them.[176] These are targets, not rules. No company is required to meet them.[177]

The word "healthy"

For years, a food could only be called "healthy" on its label if it met limits on fat, cholesterol and sodium set in the 1990s.

On December 19, 2024, the FDA issued a final rule updating what "healthy" means. The rule's start date was later pushed back to April 28, 2025, as part of a freeze on new rules when the new administration took office in January 2025.[178] Companies that choose to use the claim "have three years to conform but can use the new criteria sooner," the FDA says. The FDA has also said it is working on a symbol companies could put on the front of a package to show a food is "healthy," but as of the pages I read, that symbol was not final.[179,180]

Front-of-package labels

The FDA has proposed a rule that would put a "Nutrition Info box" on the front of "most packaged foods." It would rate saturated fat, sodium and added sugars as "Low," "Med," or "High." Calories would not be included. The comment period was extended to July 15, 2025 (docket FDA-2024-N-2910).[181] In its 2026 plan, the FDA's food program said it would

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[176] FDA, "Sodium Reduction in the Food Supply," content current as of November 1, 2024. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/sodium-reduction-food-supply. Accessed November 12, 2026.

[177] FDA, "Sodium Reduction in the Food Supply," content current as of November 1, 2024. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/sodium-reduction-food-supply. Accessed November 12, 2026.

[178] FDA, "FDA Finalizes Updated 'Healthy' Nutrient Content Claim," constituent update, December 19, 2024, content current as of February 24, 2025. https://www.fda.gov/food/hfp-constituent-updates/fda-finalizes-updated-healthy-nutrient-content-claim. Accessed November 12, 2026.

[179] FDA, "FDA Finalizes Updated 'Healthy' Nutrient Content Claim," constituent update, December 19, 2024, content current as of February 24, 2025. https://www.fda.gov/food/hfp-constituent-updates/fda-finalizes-updated-healthy-nutrient-content-claim. Accessed November 12, 2026.

[180] FDA, "Use of the 'Healthy' Claim on Food Labeling," content current as of January 16, 2025. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/use-healthy-claim-food-labeling. Accessed November 12, 2026.

[181] FDA, "Front-of-Package Nutrition Labeling," content current as of May 8, 2025. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/front-package-nutrition-labeling. Accessed November 12, 2026.

"prepare options for leadership to make decisions on the content of a final regulation."[182] As of November 12, 2026, I did not find a final rule. The front-of-package rule is still a proposal.

A walk through one label

Let me walk through a made-up example, so you can see how the pieces fit. The numbers below are invented for teaching. They are not from any real product.

Say you pick up a box of granola. The front says "Natural" and "Made with whole grains." You turn it over and find this:

A made-up granola label used for teaching. Not a real product.

Line on the label	What it says
Serving size	2/3 cup
Servings per container	About 6
Calories	260
Saturated fat	1.5 g (8% DV)
Sodium	95 mg (4% DV)
Total sugars	14 g
Includes added sugars	12 g (24% DV)
Fiber	4 g (14% DV)

Here is how I would read it.

Start with the serving size. Two-thirds of a cup is the amount the label is built on. If you pour a full bowl, you may be eating two or three servings. Multiply everything below it by the same amount.

Look at calories next. 260 calories for two-thirds of a cup tells you this is a dense food. That is not good or bad by itself. It just tells you how much energy you are getting.

Check added sugars. This is the line the 2016 update added.[183] In my example, 12 of the 14 grams of sugar were added during processing, and that one serving gives about a quarter of a day's worth. For a breakfast food, that is worth knowing.

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[182] FDA, "Human Foods Program 2026 Priority Deliverables," content current as of February 10, 2026. https://www.fda.gov/about-fda/human-foods-program/human-foods-program-2026-priority-deliverables. Accessed November 12, 2026.

[183] FDA, "Changes to the Nutrition Facts Label," content current as of March 28, 2024. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/changes-nutrition-facts-label. Accessed November 12, 2026.

Use the percent Daily Value to compare. The %DV is most useful when you hold two boxes side by side. If another granola shows 10 percent for added sugars and the same fiber, that is a real difference you can see in seconds.

Then go back to the front. "Natural" tells you, under FDA policy, that nothing artificial or synthetic was added that you would not expect in the food.[184] It does not tell you anything about sugar, fiber or calories. "Made with whole grains" tells you whole grains are in it, but not how much. The back of the box answers the questions the front does not.

Finally, read the ingredient list. Federal rules require ingredients to be listed "in descending order of predominance by weight," so the first ingredient is the one there is most of.[185] If two or three kinds of sugar appear in the first few lines, that matches what the added sugars line is telling you.

You do not need to do all of this every time. Most people settle on two or three lines they care about. For many readers that will be serving size, added sugars and sodium. For readers with a food allergy, the allergen statement comes first, and Chapter 9 covers it.

Chapter 7: Natural, Organic, Non-GMO and Other Claims

The front of a package is where companies sell to you. Some of the words there have strict legal definitions. Some have loose ones. Some have almost none. Here is how to tell the difference.

"Natural"

You might ask, "What does natural on a label actually mean?" Less than you'd think, and here is why.

The FDA "has not engaged in rulemaking to establish a formal definition for the term" natural. Instead, it has a long-standing policy. It considers "natural" to mean that "nothing artificial or synthetic (including all color additives regardless of source) has been included in, or has been added to, a food that would not normally be expected to be in that food."[186]

Just as important is what the policy does not cover. The FDA says it "was not intended to address food production methods, such as the use of pesticides," and it did not "explicitly

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[184] FDA, "Use of the Term Natural on Food Labeling," content current as of October 22, 2018. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/use-term-natural-food-labeling. Accessed November 12, 2026.

[185] Code of Federal Regulations, 21 CFR 101.4, "Food; designation of ingredients," eCFR, up to date as of June 8, 2026. https://www.ecfr.gov/current/title-21/chapter-I/subchapter-B/part-101/subpart-A/section-101.4. Accessed November 12, 2026.

[186] FDA, "Use of the Term Natural on Food Labeling," content current as of October 22, 2018. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/use-term-natural-food-labeling. Accessed November 12, 2026.

address food processing or manufacturing methods."[187] So a "natural" food can be grown with synthetic pesticides, and can be heavily processed, as long as nothing artificial was added that would not normally be expected.

The FDA asked the public for comments on whether to define natural. The comment period closed on May 10, 2016.[188] As of the page I read, no formal definition had followed.

Meat and poultry are different. USDA's FSIS defines "natural" as "a product containing no artificial ingredient or added color and is only minimally processed," and "the label must include a statement explaining the meaning of the term natural."[189]

"Organic"

Organic is the opposite of natural: it has a detailed legal meaning. USDA's Agricultural Marketing Service runs the National Organic Program, and farms and processors must be certified by an accredited certifier. The label has three levels, according to USDA:[190]

Label	What it means
100% Organic	"All ingredients must be 100% organic and processing aids must be certified organic."
Organic	"95% of product must be certified organic; nonorganic ingredients must meet restrictions."
Made with organic ingredients	"70% of product must be certified organic; nonorganic must meet restrictions."

Organic is a rule about how food is grown and handled. The federal organic regulation, 7 CFR 205.105, says a product sold as organic must be produced and handled without "Synthetic substances and ingredients," except those on an approved list. It also bars "Excluded methods, except for vaccines," which in plain words means genetic engineering,

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[187] FDA, "Use of the Term Natural on Food Labeling," content current as of October 22, 2018. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/use-term-natural-food-labeling. Accessed November 12, 2026.

[188] FDA, "Use of the Term Natural on Food Labeling," content current as of October 22, 2018. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/use-term-natural-food-labeling. Accessed November 12, 2026.

[189] USDA FSIS, "Meat and Poultry Labeling Terms," last updated July 2, 2024. https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/meat-and-poultry-labeling-terms. Accessed November 12, 2026.

[190] USDA Agricultural Marketing Service (AMS), "Labeling Requirements for the U.S. Organic Market," last updated June 2026. https://www.ams.usda.gov/services/organic-certification/international-trade/labeling-requirements-US-organic-market. Accessed November 12, 2026.

plus "Ionizing radiation" and "Sewage sludge."[191] The approved list is long and specific, so "organic" does not mean "nothing synthetic at all." It means nothing synthetic that is not on the list.

Is organic food more nutritious? That is a claim tested in Chapter 17. The short version: a major 2012 review found "the published literature lacks strong evidence that organic foods are significantly more nutritious than conventional foods," while noting organic food "may reduce exposure to pesticide residues and antibiotic-resistant bacteria."[192]

"Bioengineered" and "Non-GMO"

GMO stands for genetically modified organism. In food, it usually means a crop whose genes were changed in a lab, such as corn that resists insects. Chapter 12 covers the science.

In July 2016, Congress passed a law requiring a national disclosure standard for bioengineered food.[193] USDA chose the word "bioengineered" rather than "GMO." Companies can disclose in several ways: "text, symbol, electronic or digital link, and/or text message." Small food makers and small packages have extra options, such as a phone number or web address.[194] The law does not apply to "very small food manufacturers," meaning those with annual receipts under $2,500,000, or to restaurants.[195]

Here is a detail that surprises many people. USDA says, "Highly refined foods or ingredients that do not contain detectable modified genetic material are not bioengineered foods."[196]

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[191] Electronic Code of Federal Regulations, 7 CFR 205.105, "Allowed and prohibited substances, methods, and ingredients in organic production and handling," up to date as of October 23, 2026. https://www.ecfr.gov/current/title-7/subtitle-B/chapter-I/subchapter-M/part-205/subpart-B/section-205.105. Accessed November 12, 2026.

[192] Crystal Smith-Spangler and others, "Are Organic Foods Safer or Healthier Than Conventional Alternatives? A Systematic Review," Annals of Internal Medicine 157, no. 5 (September 4, 2012). https://www.acpjournals.org/doi/10.7326/0003-4819-157-5-201209040-00007. Accessed November 12, 2026.

[193] USDA AMS, "BE Disclosure" (National Bioengineered Food Disclosure Standard). https://www.ams.usda.gov/rules-regulations/be. Accessed November 12, 2026.

[194] USDA AMS, "BE Disclosure" (National Bioengineered Food Disclosure Standard). https://www.ams.usda.gov/rules-regulations/be. Accessed November 12, 2026.

[195] USDA AMS, "BE Frequently Asked Questions - General." https://www.ams.usda.gov/rules-regulations/be/faq/general. Accessed November 12, 2026.

[196] USDA AMS, "BE Frequently Asked Questions - General." https://www.ams.usda.gov/rules-regulations/be/faq/general. Accessed November 12, 2026.

So a bottle of oil made from genetically engineered soybeans may not carry the bioengineered label if lab tests cannot detect the modified genetic material in the refined oil.

"Non-GMO Project Verified," the butterfly logo you see on many packages, is not a government label. It is run by a private nonprofit group. [The details of that program were not checked on its own site for this book, so treat this description as Not verified beyond the basic fact that it is not a government program.]

"Product of USA"

USDA's FSIS issued a final rule on voluntary U.S.-origin claims for meat, poultry and egg products on March 18, 2024. Companies had to comply by January 1, 2026. Under the rule, a single-ingredient product labeled "Product of USA" or "Made in the USA" must be "derived from animals born, raised, slaughtered, and processed in the United States." For products with more than one ingredient, all the FSIS-regulated parts must meet that standard, all other ingredients except spices and flavorings must be of domestic origin, and the processing must happen in the United States.[197]

You might ask, "Is this required?" No. The claim is voluntary. A company does not have to say where its meat came from. But if it says "Product of USA," it now has to mean it.[198]

Animal-raising claims: grass-fed, free-range, no antibiotics

Claims about how animals were raised, such as "grass-fed," "free-range" or "raised without antibiotics," must be approved by FSIS before they appear on a meat or poultry label. FSIS publishes a guideline on how companies must back up these claims, most recently updated in 2024.[199] [The specific definitions of each claim were not checked word for word for this book, so I do not give them here.]

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[197] USDA FSIS, "Voluntary Labeling of FSIS-Regulated Products with U.S.-Origin Claims," final rule March 18, 2024, docket FSIS-2022-0015. https://www.fsis.usda.gov/policy/federal-register-rulemaking/federal-register-rules/voluntary-labeling-fsis-regulated. Accessed November 12, 2026.

[198] USDA FSIS, "Voluntary Labeling of FSIS-Regulated Products with U.S.-Origin Claims," final rule March 18, 2024, docket FSIS-2022-0015. https://www.fsis.usda.gov/policy/federal-register-rulemaking/federal-register-rules/voluntary-labeling-fsis-regulated. Accessed November 12, 2026.

[199] USDA FSIS, "FSIS Guideline on Substantiating Animal-Raising or Environment-Related Labeling Claims," FSIS-GD-2024-0006. https://www.fsis.usda.gov/guidelines/2024-0006. Accessed November 12, 2026.

Health claims

The FDA groups label claims into three main kinds: "health claims, nutrient content claims, and structure/function claims."[200]

- A **health claim** describes "a relationship between a food substance" and "reduced risk of a disease or health-related condition."[201]
- A **qualified health claim** is a kind of health claim where "the evidence is not well enough established to meet the significant scientific agreement standard." The FDA lets these be used with careful wording under letters of enforcement discretion.[202]
- A **nutrient content claim** describes "the level of a nutrient in the product," such as "low fat" or "high fiber."[203]
- A **structure/function claim** "may describe the role of a nutrient or dietary ingredient" in the body. These are not approved by the FDA in advance.[204]

Advertising: the FTC

Labels are mainly the FDA's and USDA's job. Advertising, such as TV commercials and websites, is mainly the FTC's job. In April 2009, for example, the FTC announced that "Kellogg Settles FTC Charges That Ads for Frosted Mini-Wheats Were False." The ads said the cereal was "clinically shown to improve kids' attentiveness by nearly 20%." According

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[200] FDA, "Label Claims for Conventional Foods and Dietary Supplements," content current as of March 28, 2024. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/label-claims-conventional-foods-and-dietary-supplements. Accessed November 12, 2026.

[201] FDA, "Label Claims for Conventional Foods and Dietary Supplements," content current as of March 28, 2024. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/label-claims-conventional-foods-and-dietary-supplements. Accessed November 12, 2026.

[202] FDA, "Label Claims for Conventional Foods and Dietary Supplements," content current as of March 28, 2024. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/label-claims-conventional-foods-and-dietary-supplements. Accessed November 12, 2026.

[203] FDA, "Label Claims for Conventional Foods and Dietary Supplements," content current as of March 28, 2024. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/label-claims-conventional-foods-and-dietary-supplements. Accessed November 12, 2026.

[204] FDA, "Label Claims for Conventional Foods and Dietary Supplements," content current as of March 28, 2024. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/label-claims-conventional-foods-and-dietary-supplements. Accessed November 12, 2026.

to the FTC's complaint, in Kellogg's own study "only about one in nine improved by 20 percent or more." The case ended in a settlement, which the FTC notes is "for settlement purposes only and does not constitute an admission of a law violation."[205]

The lesson for shoppers: a phrase like "clinically shown" is a claim, not a guarantee. The FTC and the FDA can challenge claims that are false or misleading, but usually only after the claims are already in ads or on shelves. [That last point is my general reading of how enforcement works, not a quote.]

Chapter 8: Expiration, Best By and Use By Dates

You might ask, "If the milk is one day past its date, do I have to throw it out?" Usually not, and the reason may surprise you.

No federal law requires most dates

USDA says it plainly: "Except for infant formula, product dating is not required by Federal regulations."[206] The dates you see on most food are chosen by the company. Some states have their own rules, but there is no single national standard.

Here is what the common phrases mean, according to USDA:[207]

Phrase	What USDA says it means
Best if Used By / Before	When a product "will be of best flavor or quality. It is not a purchase or safety date."
Sell-By	"Tells the store how long to display the product for sale for inventory management. It is not a safety date."
Use-By	"The last date recommended for the use of the product while at peak quality." It is "not a safety date except for when used on infant formula."

So the dates on most foods are about quality, not safety. USDA says that "if the date passes during home storage, a product should still be safe and wholesome if handled properly until the time spoilage is evident." How do you tell? "Spoiled foods will develop an off odor,

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[205] Federal Trade Commission (FTC), "Kellogg Settles FTC Charges That Ads for Frosted Mini-Wheats Were False," press release, April 20, 2009. https://www.ftc.gov/news-events/news/press-releases/2009/04/kellogg-settles-ftc-charges-ads-frosted-mini-wheats-were-false. Accessed November 12, 2026.

[206] USDA FSIS, "Food Product Dating" (no date shown on page). https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/food-product-dating. Accessed November 12, 2026.

[207] USDA FSIS, "Food Product Dating" (no date shown on page). https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/food-product-dating. Accessed November 12, 2026.

flavor or texture due to naturally occurring spoilage bacteria. If a food has developed such spoilage characteristics, it should not be eaten."[208]

The flip side matters too. A food can be unsafe before its date if it was handled badly. USDA's example is cold chicken salad: if it sits at temperatures above 40 F (4.4 C) "for more than two hours," it should not be eaten, no matter what the date says.[209] And eggs keep best "in their original carton" in "the coldest part of the refrigerator, not in the door."[210]

For leftovers you cook yourself, there is no printed date at all. USDA says "leftovers can be kept in the refrigerator for 3 to 4 days or frozen for 3 to 4 months."[211]

Infant formula is the exception

"Federal regulations require a 'Use-By' date on the product label of infant formula," USDA explains. "Consumption by this date ensures the formula contains not less than the quantity of each nutrient as described on the label." USDA's advice is direct: "Do not buy or use baby formula after its 'Use-By' date."[212]

Why it matters: food waste

USDA estimates that "30 percent of the food supply is lost or wasted at the retail and consumer levels."[213] Confusion about dates is one reason people throw out food that is still good. In December 2024, USDA and the FDA asked the public for information about "industry practices and preferences for date labeling, research results on consumer

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[208] USDA FSIS, "Food Product Dating" (no date shown on page). https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/food-product-dating. Accessed November 12, 2026.

[209] USDA FSIS, "Food Product Dating" (no date shown on page). https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/food-product-dating. Accessed November 12, 2026.

[210] USDA FSIS, "Food Product Dating" (no date shown on page). https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/food-product-dating. Accessed November 12, 2026.

[211] USDA FSIS, "Leftovers and Food Safety," last updated July 31, 2020. https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/leftovers-and-food-safety. Accessed November 12, 2026.

[212] USDA FSIS, "Food Product Dating" (no date shown on page). https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/food-product-dating. Accessed November 12, 2026.

[213] USDA FSIS, "Food Product Dating" (no date shown on page). https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/food-product-dating. Accessed November 12, 2026.

perceptions of date labeling, and any impact date labeling may have on food waste." The comment period ran until March 5, 2025.[214] The same notice recommends "Best if Used By" as the phrase companies should use voluntarily.[215] As of November 12, 2026, I did not find a federal rule requiring standard date labels. Chapter 19 covers the bills in Congress that would create one.

Chapter 9: Allergen Labels

For millions of Americans, a food label is not about preference. It is about avoiding a trip to the emergency room. This chapter explains what the law requires.

The nine major allergens

The Food Allergen Labeling and Consumer Protection Act of 2004, known as FALCPA, named eight foods as "major food allergens."[216] In 2021, the Food Allergy Safety, Treatment, Education, and Research Act, known as the FASTER Act, added sesame as the ninth. President Biden signed it on April 23, 2021, and the sesame labeling requirement took effect on January 1, 2023.[217]

The nine major food allergens are:[218]

1. Milk
2. Eggs
3. Fish
4. Crustacean shellfish (like crab, lobster and shrimp)

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[214] USDA FSIS and FDA, "Food Date Labeling," request for information, Federal Register document 2024-27810, filed December 3, 2024 (page edited January 2025). https://www.fsis.usda.gov/policy/federal-register-rulemaking/federal-register-notices/food-date-labeling. Accessed November 12, 2026.

[215] USDA FSIS and FDA, "Food Date Labeling," request for information, Federal Register document 2024-27810, filed December 3, 2024 (page edited January 2025). https://www.fsis.usda.gov/policy/federal-register-rulemaking/federal-register-notices/food-date-labeling. Accessed November 12, 2026.

[216] FDA, "The FASTER Act: Sesame Is the Ninth Major Food Allergen," content current as of April 12, 2024. https://www.fda.gov/food/food-allergies/faster-act-sesame-ninth-major-food-allergen. Accessed November 12, 2026.

[217] FDA, "The FASTER Act: Sesame Is the Ninth Major Food Allergen," content current as of April 12, 2024. https://www.fda.gov/food/food-allergies/faster-act-sesame-ninth-major-food-allergen. Accessed November 12, 2026.

[218] FDA, "Food Allergies: What You Need to Know," content current as of August 16, 2024. https://www.fda.gov/food/buy-store-serve-safe-food/food-allergies-what-you-need-know. Accessed November 12, 2026.

5. Tree nuts
6. Peanuts
7. Wheat
8. Soybeans
9. Sesame

FALCPA requires food labels to "clearly identify the food source names" of major allergens.[219] The FDA says there are two accepted ways to do it. The source can appear in parentheses in the ingredient list, as in "whey (milk)." Or the label can carry a statement right after the ingredients, such as "Contains Wheat, Milk, and Soy."[220]

This rule covers foods the FDA regulates. The FDA notes that poultry, most meats, certain egg products and most alcoholic beverages are regulated by other agencies.[221] [I did not check how USDA handles allergen labeling on meat and poultry for this book.]

What a reaction looks like

The FDA lists symptoms that include "Hives," "Flushed skin or rash," "Tingling or itchy sensation in the mouth," "Face, tongue, or lip swelling," "Difficulty breathing" and "Loss of consciousness." They can show up "from within a few minutes to a few hours" after eating. The FDA warns that some reactions "may progress to a severe, life-threatening allergic reaction called anaphylaxis."[222]

If you think you or someone with you is having a reaction, the FDA's advice is to "Stop eating the food immediately," "Evaluate the need for emergency treatment (such as epinephrine)," and "Seek medical attention."[223] This book is not medical advice. If you or your child has a food allergy, work out a plan with your doctor before you need it.

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[219] FDA, "Food Allergies: What You Need to Know," content current as of August 16, 2024. https://www.fda.gov/food/buy-store-serve-safe-food/food-allergies-what-you-need-know. Accessed November 12, 2026.

[220] FDA, "Food Allergies: What You Need to Know," content current as of August 16, 2024. https://www.fda.gov/food/buy-store-serve-safe-food/food-allergies-what-you-need-know. Accessed November 12, 2026.

[221] FDA, "Food Allergies: What You Need to Know," content current as of August 16, 2024. https://www.fda.gov/food/buy-store-serve-safe-food/food-allergies-what-you-need-know. Accessed November 12, 2026.

[222] FDA, "Food Allergies: What You Need to Know," content current as of August 16, 2024. https://www.fda.gov/food/buy-store-serve-safe-food/food-allergies-what-you-need-know. Accessed November 12, 2026.

[223] FDA, "Food Allergies: What You Need to Know," content current as of August 16, 2024. https://www.fda.gov/food/buy-store-serve-safe-food/food-allergies-what-you-need-know. Accessed November 12, 2026.

The sesame surprise

When sesame was added, some companies took an unexpected path. Instead of cleaning equipment to keep sesame out, some added a small amount of sesame to products on purpose and labeled it. The FDA noted that "Some food manufacturers have recently changed their recipes" and that "There are now food products with small amounts of sesame that did not have it before."[224] That made life harder for people allergic to sesame, even though the companies were following the law.

"May contain"

What about phrases like "may contain peanuts" or "made in a facility that also processes tree nuts"? These are called advisory or precautionary statements. The FDA says "such statements are not required by law." They should be used only when a company has taken "every precaution" and cross-contact still cannot be avoided, they "should not be used as a substitute for adhering to current good manufacturing practices," and they must be "truthful and not misleading."[225] If you have a serious allergy, ask your doctor how to treat these warnings.

Allergens and recalls

Undeclared allergens, meaning an allergen in the food that is not on the label, are a serious problem. The FDA says that from September 2009 to September 2014, "about one-third of foods reported to the FDA through the RFR as serious health risks involved undeclared allergens." The RFR is the FDA's Reportable Food Registry. "Of the major food allergens, milk represents the most common cause of recalls due to undeclared allergens."[226] Appendix B explains how to check whether a food you bought has been recalled.

"Gluten-free"

Gluten is not one of the nine major allergens, but it matters to people with celiac disease. "On August 2, 2013, FDA issued a final rule defining 'gluten-free' for food labeling," and in

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[224] FDA, "The FASTER Act: Sesame Is the Ninth Major Food Allergen," content current as of April 12, 2024. https://www.fda.gov/food/food-allergies/faster-act-sesame-ninth-major-food-allergen. Accessed November 12, 2026.

[225] FDA, "Food Allergies," content current as of March 11, 2026. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/food-allergies. Accessed November 12, 2026.

[226] FDA, "Food Allergies," content current as of March 11, 2026. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/food-allergies. Accessed November 12, 2026.

2020 it added a rule for fermented and hydrolyzed foods.[227] [The specific gluten limit in the rule was not on the FDA page I read, so I do not state it here.]

This book is not medical advice. If you or your child has a food allergy, follow your doctor's guidance on reading labels and handling exposures.

Part Four: Additives, GMOs and Pesticides: What the Evidence Shows

The rules and agency actions in this part are current as of the dates of the sources cited, and no later than November 12, 2026.

Chapter 10: How Additives Get Approved, and GRAS

Read the ingredient list on a box of crackers and you may find words like "soy lecithin," "BHT" or "natural flavors." How did those get there? Who said they were safe? The answer depends on which of two paths the ingredient took.

Path one: the food additive petition

Under federal law, a "food additive" must be authorized by the FDA before it can be used in food on the market.[228] The company asks the FDA in a petition, provides safety data, and the FDA decides. Chapter 3 explained that this system started with the Food Additives Amendment of 1958.[229]

Path two: "generally recognized as safe"

The 1958 law also created an exception. A substance does not count as a "food additive," and does not need FDA approval, if its use is "generally recognized as safe," or GRAS. According to the FDA, GRAS uses must be "generally recognized by qualified experts," and

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[227] FDA, "Gluten-Free Labeling of Foods," content current as of March 17, 2026. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/gluten-free-labeling-foods. Accessed November 12, 2026.

[228] FDA, "Understanding How the FDA Regulates Food Additives and GRAS Ingredients," content current as of June 6, 2024. https://www.fda.gov/food/food-additives-and-gras-ingredients-information-consumers/understanding-how-fda-regulates-food-additives-and-gras-ingredients. Accessed November 12, 2026.

[229] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

"all data necessary to establish safety must be publicly available."[230] GRAS ingredients "do not require pre-market review by the FDA."[231]

You might ask, "So who decides something is GRAS?" Here is where it gets controversial. An FDA article explains that "a determination that an ingredient is GRAS can be made by qualified experts outside of government."[232] A company can hire its own panel of experts, decide its ingredient is GRAS, and start selling it. It can tell the FDA through a GRAS notice, but under the rules in place as of November 12, 2026, it does not have to. The FDA says the notice "is not mandatory; however, the FDA strongly encourages manufacturers" to submit one.[233] The FDA finalized the current voluntary notice system in a rule published August 17, 2016.[234]

When a company decides on its own and does not tell the FDA, people call it "self-affirmed GRAS." Critics call it the "GRAS loophole."

Both sides of the GRAS debate

Critics argue the FDA does not even know about every ingredient in the food supply, because companies can use self-affirmed GRAS substances without notice. Consumer advocates have pushed for years to end self-affirmation. So has the current administration: the White House "Make America Healthy Again" (MAHA) strategy, released in September

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[230] FDA, "Understanding How the FDA Regulates Food Additives and GRAS Ingredients," content current as of June 6, 2024. https://www.fda.gov/food/food-additives-and-gras-ingredients-information-consumers/understanding-how-fda-regulates-food-additives-and-gras-ingredients. Accessed November 12, 2026.

[231] FDA, "Understanding How the FDA Regulates Food Additives and GRAS Ingredients," content current as of June 6, 2024. https://www.fda.gov/food/food-additives-and-gras-ingredients-information-consumers/understanding-how-fda-regulates-food-additives-and-gras-ingredients. Accessed November 12, 2026.

[232] Paulette M. Gaynor, "How U.S. FDA's GRAS Notification Program Works," reprinted by FDA from Food Safety Magazine (December 2005/January 2006), content current as of February 9, 2018. https://www.fda.gov/food/generally-recognized-safe-gras/how-us-fdas-gras-notification-program-works. Accessed November 12, 2026.

[233] FDA, "Understanding How the FDA Regulates Food Additives and GRAS Ingredients," content current as of June 6, 2024. https://www.fda.gov/food/food-additives-and-gras-ingredients-information-consumers/understanding-how-fda-regulates-food-additives-and-gras-ingredients. Accessed November 12, 2026.

[234] FDA, "Generally Recognized as Safe (GRAS)," content current as of August 10, 2026. https://www.fda.gov/food/food-ingredients-packaging/generally-recognized-safe-gras. Accessed November 12, 2026.

2025, called for "closing the 'GRAS loophole,' implementing a mandatory GRAS notification program."[235]

Defenders of the current system, mainly industry groups, argue that GRAS has worked for decades, that many GRAS ingredients are ordinary, long-used food substances, and that the FDA lacks the staff to review every ingredient. [This summary of the defenders' case is mine; I did not find one industry statement making all these points.] One familiar example of a GRAS ingredient is monosodium glutamate (MSG), which the FDA "considers ... to be 'generally recognized as safe' (GRAS)" (Chapter 17).[236] There is also a legal argument. A law firm analysis notes that in the 2016 final rule, the FDA itself said it lacked express legal authority to require companies to submit GRAS notices.[237] That is a law firm's reading, which I flag as Tier 5 analysis; the 2016 rule itself would be the primary source.

The 2026 proposed rule

On August 10, 2026, the FDA proposed a rule "to enhance oversight of uses of substances added to human and animal food."[238] According to Food Safety Magazine, the rule "would require companies to notify the agency" when they conclude a substance is GRAS. It would "not establish a premarket review and approval process for GRAS substances." The FDA is taking comments for 120 days after the rule's August 11 publication in the Federal Register.[239] By my count, that runs to about December 9, 2026. If finalized, the rule would take effect 60 days later, and companies would have 18 months to comply.[240]

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[235] Make America Healthy Again Commission, "Make Our Children Healthy Again Strategy" (Strategy Report), The White House, September 2025. https://www.whitehouse.gov/wp-content/uploads/2025/09/The-MAHA-Strategy-WH.pdf. Accessed November 12, 2026.

[236] FDA, "Questions and Answers on Monosodium glutamate (MSG)," content current as of July 17, 2026. https://www.fda.gov/food/food-additives-petitions/questions-and-answers-monosodium-glutamate-msg. Accessed November 12, 2026.

[237] Todd A. Harrison, "New Details Emerge on FDA's GRAS Rulemaking," Venable LLP, July 16, 2026 (law firm analysis). https://www.venable.com/insights/publications/2026/07/new-details-emerge-on-fdas-gras-rulemaking. Accessed November 12, 2026.

[238] FDA, "Generally Recognized as Safe (GRAS)," content current as of August 10, 2026. https://www.fda.gov/food/food-ingredients-packaging/generally-recognized-safe-gras. Accessed November 12, 2026.

[239] Bailee Henderson, "FDA Proposes Mandatory GRAS Notifications for Ingredients Introduced to U.S. Food Supply," Food Safety Magazine, August 10, 2026. https://www.food-safety.com/articles/11713-fda-proposes-mandatory-gras-notifications-for-ingredients-introduced-to-us-food-supply. Accessed November 12, 2026.

[240] Bailee Henderson, "FDA Proposes Mandatory GRAS Notifications for Ingredients Introduced to U.S. Food Supply," Food Safety Magazine, August 10, 2026.

As of November 12, 2026, this is a proposal, not a law. The comment period was still open. Chapter 19 lays out the arguments on each side.

What this means when you shop

You cannot tell from a label which path an ingredient took. A substance approved by petition and a substance a company decided on its own was GRAS look the same in the ingredient list. Both are listed by their common names, in order by weight.[241]

You might ask, "Is a self-affirmed GRAS ingredient unsafe?" Not necessarily. The GRAS standard still requires that the safety be "generally recognized by qualified experts" and based on publicly available data.[242] The question critics raise is about oversight: whether the FDA, and the public, can know what is in the food supply and check the evidence. That is a question about process. It is not proof that any particular ingredient is harmful.

Here is a simple way to think about the two paths:

The two paths for food ingredients, under rules in place as of November 12, 2026.

	Food additive petition	GRAS
Who decides it is safe?	The FDA, after reviewing a petition	Qualified experts, who can be outside the government[243]
Must the FDA be told before use?	Yes, it must be authorized[244]	No, under current rules; a 2026 proposal would require notice[245,246]

https://www.food-safety.com/articles/11713-fda-proposes-mandatory-gras-notifications-for-ingredients-introduced-to-us-food-supply. Accessed November 12, 2026.

[241] Code of Federal Regulations, 21 CFR 101.4, "Food; designation of ingredients," eCFR, up to date as of June 8, 2026. https://www.ecfr.gov/current/title-21/chapter-I/subchapter-B/part-101/subpart-A/section-101.4. Accessed November 12, 2026.

[242] FDA, "Understanding How the FDA Regulates Food Additives and GRAS Ingredients," content current as of June 6, 2024. https://www.fda.gov/food/food-additives-and-gras-ingredients-information-consumers/understanding-how-fda-regulates-food-additives-and-gras-ingredients. Accessed November 12, 2026.

[243] Paulette M. Gaynor, "How U.S. FDA's GRAS Notification Program Works," reprinted by FDA from Food Safety Magazine (December 2005/January 2006), content current as of February 9, 2018. https://www.fda.gov/food/generally-recognized-safe-gras/how-us-fdas-gras-notification-program-works. Accessed November 12, 2026.

[244] FDA, "Understanding How the FDA Regulates Food Additives and GRAS Ingredients," content current as of June 6, 2024. https://www.fda.gov/food/food-additives-and-gras-ingredients-information-consumers/understanding-how-fda-regulates-food-additives-and-gras-ingredients. Accessed November 12, 2026.

	Food additive petition	GRAS
Is the evidence public?	Through the FDA's process	GRAS requires the safety data to be "publicly available"[247]
Example in this book	Color additives, such as the dyes in Chapter 11, go through a similar required approval of their own[248]	MSG[249]

Reviewing chemicals already in use

Approval is one question. What happens if new evidence raises concerns about an ingredient already on shelves? The FDA keeps a public list of chemicals it is reviewing. As of a table dated May 12, 2026, the list included:[250]

Chemical	What it is used for	FDA status (as of May 12, 2026)
BHA (butylated hydroxyanisole)	Preservative	Scientific assessment
BHT (butylated hydroxytoluene)	Preservative	Review of information
Azodicarbonamide (ADA)	Dough conditioner	Review of

[245] FDA, "Understanding How the FDA Regulates Food Additives and GRAS Ingredients," content current as of June 6, 2024. https://www.fda.gov/food/food-additives-and-gras-ingredients-information-consumers/understanding-how-fda-regulates-food-additives-and-gras-ingredients. Accessed November 12, 2026.

[246] FDA, "Generally Recognized as Safe (GRAS)," content current as of August 10, 2026. https://www.fda.gov/food/food-ingredients-packaging/generally-recognized-safe-gras. Accessed November 12, 2026.

[247] FDA, "Understanding How the FDA Regulates Food Additives and GRAS Ingredients," content current as of June 6, 2024. https://www.fda.gov/food/food-additives-and-gras-ingredients-information-consumers/understanding-how-fda-regulates-food-additives-and-gras-ingredients. Accessed November 12, 2026.

[248] FDA, "Is It Really 'FDA Approved'?" content current as of May 4, 2026. https://www.fda.gov/consumers/consumer-updates/it-really-fda-approved. Accessed November 12, 2026.

[249] FDA, "Questions and Answers on Monosodium glutamate (MSG)," content current as of July 17, 2026. https://www.fda.gov/food/food-additives-petitions/questions-and-answers-monosodium-glutamate-msg. Accessed November 12, 2026.

[250] FDA, "List of Select Chemicals in the Food Supply Under FDA Review," table as of May 12, 2026, page modified October 29, 2026. https://www.fda.gov/food/food-chemical-safety/list-select-chemicals-food-supply-under-fda-review. Accessed November 12, 2026.

Chemical	What it is used for	FDA status (as of May 12, 2026)
		information
Titanium dioxide	White color	Petition under review since April 14, 2023
Six petroleum-based dyes (Blue 1, Blue 2, Green 3, Red 40, Yellow 5, Yellow 6)	Colors	Risk management action
Red No. 3	Color	Action completed (revoked)
Brominated vegetable oil (BVO)	Food additive, allowed at up to 15 parts per million before the ban	Revoked by final rule, July 3, 2024

Trans fat is an earlier example of the same thing, and it shows that GRAS status can be taken away. "In 2015, the FDA took the significant step of determining that PHOs," meaning partially hydrogenated oils, "then the major source of artificial trans fat in the food supply, are no longer 'Generally Recognized as Safe,' or GRAS." For most uses, "June 18, 2018, was the date after which manufacturers could not add PHOs to foods," and the FDA extended the final date for products already in distribution to January 1, 2021. The FDA says removing them "is estimated to be preventing thousands of heart attacks and deaths each year."[251]

BVO shows how a review can end in a ban. The FDA said "the intended use of BVO in food is no longer considered safe after the results of studies conducted in collaboration with the National Institutes of Health (NIH) found the potential for adverse health effects in humans." The studies found that "at high levels of exposure the thyroid is a target organ of potential negative health effects in rodents." The FDA revoked the regulation on July 3, 2024. The rule took effect August 2, 2024, and companies had one year after that to comply.[252]

The FDA describes five stages in this process: review of information, scientific assessment, risk management review, risk management action, and risk management action

[251] FDA, "Trans Fat," content current as of April 30, 2024. https://www.fda.gov/food/food-additives-petitions/trans-fat. Accessed November 12, 2026.

[252] FDA, "Brominated Vegetable Oil (BVO)," content current as of July 2, 2024. https://www.fda.gov/food/food-additives-petitions/brominated-vegetable-oil-bvo. Accessed November 12, 2026.

completed.[253] The FDA's 2026 plan says it will post the first edition of a "Systematic Post-Market Assessment" process and start with phthalates, propylparaben, BHA and BHT, among others.[254]

Chapter 11: Food Dyes

Few food topics stir up as much feeling as the bright colors in candy and cereal. This chapter covers what the dyes are, what the science says, and what changed in 2025 and 2026.

What the dyes are

Most synthetic food dyes in the U.S. are made from petroleum. Each batch must be certified by the FDA before use, which is why their names start with "FD&C" (for the Federal Food, Drug, and Cosmetic Act). As Chapter 3 explained, the Color Additive Amendment of 1960 required makers to establish the safety of colors.[255]

What the science says about behavior

The most famous study is from the University of Southampton in England, published in The Lancet in 2007. Researchers gave 153 three-year-olds and 144 eight- and nine-year-olds drinks containing a preservative, sodium benzoate, plus one of two mixes of artificial colors, or a placebo drink. Neither the families nor the researchers knew which drink a child got. The authors concluded: "Artificial colours or a sodium benzoate preservative (or both) in the diet result in increased hyperactivity in 3-year-old and 8/9-year-old children in the general population."[256]

What are the limits of that study? Two stand out. The test drinks mixed the dyes with a preservative, so the study cannot say whether the dyes alone, the preservative alone or

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[253] FDA, "List of Select Chemicals in the Food Supply Under FDA Review," table as of May 12, 2026, page modified October 29, 2026. https://www.fda.gov/food/food-chemical-safety/list-select-chemicals-food-supply-under-fda-review. Accessed November 12, 2026.

[254] FDA, "Human Foods Program 2026 Priority Deliverables," content current as of February 10, 2026. https://www.fda.gov/about-fda/human-foods-program/human-foods-program-2026-priority-deliverables. Accessed November 12, 2026.

[255] Food and Drug Administration (FDA), "Milestones in U.S. Food and Drug Law," last modified January 30, 2023. https://www.fda.gov/about-fda/fda-history/milestones-us-food-and-drug-law. Accessed November 12, 2026.

[256] Donna McCann and others, "Food additives and hyperactive behaviour in 3-year-old and 8/9-year-old children in the community: a randomised, double-blinded, placebo-controlled trial," The Lancet 370, no. 9598 (2007): 1560-1567 (abstract via University of Southampton repository). https://eprints.soton.ac.uk/145999. Accessed November 12, 2026.

both caused the effect. And the results were not the same across groups: for the three-year-olds, one dye mix showed an effect and the other did not.[257] The effects were measurable but small on average.

In April 2021, California's Office of Environmental Health Hazard Assessment (OEHHA) reviewed the research and concluded, according to a summary of its report, that "synthetic food dyes are associated with adverse neurobehavioral outcomes in children" and that "current ADIs may not provide adequate protection from neurobehavioral impacts in children."[258] ADI means acceptable daily intake, the amount regulators consider safe to eat every day. OEHHA pointed out that the FDA's ADIs for these dyes were set between 1969 and 1987.[259] The same OEHHA report quotes the FDA's long-standing view: "most children have no adverse effects when consuming foods containing color additives," but "some evidence suggests that certain children may be sensitive to them."[260]

So where does that leave us? Here is the honest summary. There is real evidence that some children's behavior is affected by some dyes. There is not evidence that dyes cause attention deficit hyperactivity disorder (ADHD) in children who would not otherwise have it. Chapter 17 gives the formal verdict on the claim.

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[257] Donna McCann and others, "Food additives and hyperactive behaviour in 3-year-old and 8/9-year-old children in the community: a randomised, double-blinded, placebo-controlled trial," The Lancet 370, no. 9598 (2007): 1560-1567 (abstract via University of Southampton repository). https://eprints.soton.ac.uk/145999. Accessed November 12, 2026.

[258] California Office of Environmental Health Hazard Assessment (OEHHA), "Health Effects Assessment: Potential Neurobehavioral Effects of Synthetic Food Dyes in Children," April 2021. https://www.oehha.ca.gov/risk-assessment/report/health-effects-assessment-potential-neurobehavioral-effects-synthetic-food-dyes-children. Accessed November 12, 2026.

[259] California Office of Environmental Health Hazard Assessment (OEHHA), "Health Effects Assessment: Potential Neurobehavioral Effects of Synthetic Food Dyes in Children," April 2021. https://www.oehha.ca.gov/risk-assessment/report/health-effects-assessment-potential-neurobehavioral-effects-synthetic-food-dyes-children. Accessed November 12, 2026.

[260] California Office of Environmental Health Hazard Assessment (OEHHA), "Health Effects Assessment: Potential Neurobehavioral Effects of Synthetic Food Dyes in Children," April 2021. https://www.oehha.ca.gov/risk-assessment/report/health-effects-assessment-potential-neurobehavioral-effects-synthetic-food-dyes-children. Accessed November 12, 2026.

Red No. 3

Red No. 3 is a cherry-red dye used in some candies, cake decorations and drugs. "In 1990, the FDA responded to a petition requesting that the FDA permanently authorize the use of FD&C Red No. 3 in cosmetics and topical drugs," the agency says, and "denied the petition based on the Delaney Clause." Red No. 3 stayed legal in food for another 35 years.[261]

On January 15, 2025, the FDA signed an order revoking Red No. 3's authorization in food and ingested drugs. It used the Delaney Clause, the 1958 rule that bars any additive found to cause cancer in animals. The FDA's own page says there is "no evidence showing FD&C Red No. 3 causes cancer in humans."[262] Food makers have until January 15, 2027 to stop using it, and makers of ingested drugs have until January 18, 2028. On August 5, 2026, the FDA issued a second order responding to objections from a company that wanted the decision reversed.[263]

The 2025 phase-out of petroleum dyes

On April 22, 2025, HHS and the FDA announced a plan to move the food supply away from petroleum-based dyes. The plan had six parts. Among them, the FDA said it would start revoking two little-used dyes, Citrus Red No. 2 and Orange B, "within the coming months," and would work with industry to eliminate six more, Green 3, Red 40, Yellow 5, Yellow 6, Blue 1 and Blue 2, "by the end of next year," meaning the end of 2026.[264]

Notice what kind of action that was. The six main dyes were not banned. The FDA asked companies to remove them voluntarily. Later, the target date moved. On July 22, 2025, the Consumer Brands Association, a large food industry group, urged its member companies "to stop manufacturing with FD&C colors by December 31, 2027," and by the start of the 2026 to 2027 school year for foods sold in schools.[265] The FDA's pledge tracker, updated

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[261] FDA, "FD&C Red No. 3," content current as of October 5, 2026. https://www.fda.gov/industry/color-additives/fdc-red-no-3. Accessed November 12, 2026.

[262] FDA, "FD&C Red No. 3," content current as of October 5, 2026. https://www.fda.gov/industry/color-additives/fdc-red-no-3. Accessed November 12, 2026.

[263] FDA, "FD&C Red No. 3," content current as of October 5, 2026. https://www.fda.gov/industry/color-additives/fdc-red-no-3. Accessed November 12, 2026.

[264] FDA, "HHS, FDA to Phase Out Petroleum-Based Synthetic Dyes in Nation's Food Supply," press release, April 22, 2025. https://www.fda.gov/news-events/press-announcements/hhs-fda-phase-out-petroleum-based-synthetic-dyes-nations-food-supply. Accessed November 12, 2026.

[265] FDA, "HHS, FDA Praise Consumer Brands Association's Vow to Remove Artificial Colors from America's Food Supply," press release, July 22, 2025. https://www.fda.gov/news-

October 16, 2026, describes the goal for the six dyes as "by the end of 2027."[266] So the original April 2025 announcement said end of 2026, and later FDA material says end of 2027. I report both and note the change.

The tracker lists company pledges. General Mills said it would remove the dyes from cereals and school foods by summer 2026 and from all U.S. retail products by the end of 2027. Nestle USA said mid-2026. Walmart said its private brands would be free of them by January 2027. Kraft Heinz said the end of 2027.[267]

What happened to the two smaller dyes? On July 22, 2026, the FDA issued a final order revoking Orange B in food, effective September 8, 2026, and proposed to revoke Citrus Red No. 2, which has been allowed "since 1959 for coloring the skins of mature oranges." Comments on Citrus Red No. 2 were due August 24, 2026.[268,269] As of November 12, 2026, I did not find a final order on Citrus Red No. 2.

New natural colors

To give companies replacements, the FDA approved colors from natural sources. On May 9, 2025, it approved galdieria extract blue (from red algae), calcium phosphate (a white color) and expanded use of butterfly pea flower extract.[270] On July 14, 2025, it approved gardenia

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events/press-announcements/hhs-fda-praise-consumer-brands-associations-vow-remove-artificial-colors-americas-food-supply. Accessed November 12, 2026.

[266] FDA, "Tracking Food Industry Pledges to Remove Petroleum Based Food Dyes," content current as of October 16, 2026. https://www.fda.gov/food/color-additives-information-consumers/tracking-food-industry-pledges-remove-petroleum-based-food-dyes. Accessed November 12, 2026.

[267] FDA, "Tracking Food Industry Pledges to Remove Petroleum Based Food Dyes," content current as of October 16, 2026. https://www.fda.gov/food/color-additives-information-consumers/tracking-food-industry-pledges-remove-petroleum-based-food-dyes. Accessed November 12, 2026.

[268] FDA, "FDA Proposes Revocation of Authorization for Orange B in Food," constituent update, September 17, 2025, updated July 22, 2026. https://www.fda.gov/food/hfp-constituent-updates/fda-proposes-revocation-authorization-orange-b-food. Accessed November 12, 2026.

[269] FDA, "FDA Takes Further Steps to Remove Outdated Authorizations for Color Additives in Food," press release, July 22, 2026. https://www.fda.gov/news-events/press-announcements/fda-takes-further-steps-remove-outdated-authorizations-color-additives-food. Accessed November 12, 2026.

[270] FDA, "FDA Approves Three Food Colors from Natural Sources," press release, May 9, 2025. https://www.fda.gov/news-events/press-announcements/fda-approves-three-food-colors-natural-sources. Accessed November 12, 2026.

(genipin) blue, which the FDA called "the fourth color derived from natural sources approved by the FDA for use in foods in the last two months."[271] On February 5, 2026, the FDA approved beetroot red and expanded the use of spirulina extract. The same day, it said companies could claim a product has "no artificial colors" if it has no petroleum-based colors.[272]

What other countries do

Europe has not banned most of these dyes. Instead, under Regulation 1333/2008, the European Union requires foods containing any of six colors, including Allura Red (E 129) and Tartrazine (E 102), to carry a warning that they "may have an adverse effect on activity and attention in children."[273] Allura Red and Tartrazine are the European names for the dyes Americans know as Red 40 and Yellow 5. [The U.S. equivalents are standard, but I did not check them on an official page for this book.]

State laws

States have moved faster than the federal government in some cases.

- **California.** In 2023, Governor Gavin Newsom signed Assembly Bill 418. "Starting in 2027, California will prohibit red dye No. 3, potassium bromate, brominated vegetable oil and propylparaben," NBC News reported.[274]
- **West Virginia.** On March 24, 2025, Governor Patrick Morrisey signed House Bill 2354. It bans Red 3, Red 40, Yellow 5, Yellow 6, Blue 1, Blue 2 and Green 3 from

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[271] FDA, "FDA Approves Gardenia (Genipin) Blue Color Additive While Encouraging Faster Phase-Out of FD&C Red No. 3," press release, July 14, 2025. https://www.fda.gov/news-events/press-announcements/fda-approves-gardenia-genipin-blue-color-additive-while-encouraging-faster-phase-out-fdc-red-no-3. Accessed November 12, 2026.

[272] FDA, "FDA Takes New Approach to 'No Artificial Colors' Claims," press release, February 5, 2026. https://www.fda.gov/news-events/press-announcements/fda-takes-new-approach-no-artificial-colors-claims. Accessed November 12, 2026.

[273] Regulation (EC) No 1333/2008 on food additives, Annex V (colours requiring additional labeling information), via legislation.gov.uk. https://legislation.gov.uk/eur/2008/1333/annex/V/data.pdf. Accessed November 12, 2026.

[274] NBC News, "California becomes first state to ban four chemicals in food, including red dye No. 3," October 2023. https://www.nbcnews.com/news/us-news/california-becomes-first-state-ban-four-chemicals-food-red-dye-no-3-rcna119660. Accessed November 12, 2026.

school meals beginning August 1, 2025, and from all food sold in the state beginning January 1, 2028, along with the preservatives BHA and propylparaben.[275]

- **Texas.** Texas passed Senate Bill 25, whose Section 9 would require a warning label on foods containing "any of 44 specified ingredients," including synthetic colors. On February 11, 2026, a federal district court issued a preliminary injunction blocking the state from enforcing that section against four food industry trade groups and their members, finding it likely violated the First Amendment. It is not a final ruling.[276]

Both sides

Those who favor removing dyes argue that the dyes add nothing but color, that safer natural options exist, that the FDA's safety limits are decades old, and that some children are clearly affected. That includes consumer groups, many parents, and the current HHS leadership.[277,278]

Those who are cautious point out that the FDA's own long-standing view was that "most children have no adverse effects" from dyes, even though "certain children may be sensitive."[279] The 2007 Southampton study found effects that were small and not

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[275] Office of the Governor of West Virginia, "Governor Patrick Morrisey Signs Food Dye Legislation Into Law," March 24, 2025. https://governor.wv.gov/article/governor-patrick-morrisey-signs-food-dye-legislation-law. Accessed November 12, 2026.

[276] Covington and Burling LLP, "Court Enjoins Texas SB 25 Food Label Warning Requirement," February 12, 2026 (law firm analysis). https://www.cov.com/en/news-and-insights/insights/2026/02/court-enjoins-texas-sb-25-food-label-warning-requirement. Accessed November 12, 2026.

[277] Make America Healthy Again Commission, "Make Our Children Healthy Again Strategy" (Strategy Report), The White House, September 2025. https://www.whitehouse.gov/wp-content/uploads/2025/09/The-MAHA-Strategy-WH.pdf. Accessed November 12, 2026.

[278] California Office of Environmental Health Hazard Assessment (OEHHA), "Health Effects Assessment: Potential Neurobehavioral Effects of Synthetic Food Dyes in Children," April 2021. https://www.oehha.ca.gov/risk-assessment/report/health-effects-assessment-potential-neurobehavioral-effects-synthetic-food-dyes-children. Accessed November 12, 2026.

[279] California Office of Environmental Health Hazard Assessment (OEHHA), "Health Effects Assessment: Potential Neurobehavioral Effects of Synthetic Food Dyes in Children," April 2021. https://www.oehha.ca.gov/risk-assessment/report/health-effects-assessment-potential-neurobehavioral-effects-synthetic-food-dyes-children. Accessed November 12, 2026.

consistent across both mixtures for the youngest children (Chapter 17).[280] Food industry groups have also fought state rules. Four trade associations sued to stop the Texas warning-label law, and won a preliminary injunction.[281] [I did not find a single named industry statement on dyes for this book, so I cite the lawsuit rather than a press release.]

Chapter 12: Genetically Modified Foods

What "genetically modified" means

Farmers have changed plants for thousands of years by choosing and crossing the best ones. Genetic engineering is different. Scientists change a plant's genes directly in a lab, for example by adding a gene that makes the plant resist a certain insect or survive a certain weed killer.

The FDA says "GMO foods have been available to consumers since the early 1990s." It names the main engineered crops in the United States as "soybeans, corn, sugar beets, canola, and cotton." According to the same FDA page, in 2020 engineered varieties made up 94 percent of soybeans planted, 96 percent of cotton and 92 percent of corn.[282] So if you eat processed food made with corn or soy ingredients, you have very likely eaten food from engineered crops, though as Chapter 7 explains, many highly refined ingredients do not carry the bioengineered label.

What the major reviews found

The biggest U.S. review is from the National Academies of Sciences, Engineering, and Medicine, released in May 2016. The committee "found no substantiated evidence of a difference in risks to human health between current commercially available genetically engineered (GE) crops and conventionally bred crops." It also said that "available

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[280] Donna McCann and others, "Food additives and hyperactive behaviour in 3-year-old and 8/9-year-old children in the community: a randomised, double-blinded, placebo-controlled trial," The Lancet 370, no. 9598 (2007): 1560-1567 (abstract via University of Southampton repository). https://eprints.soton.ac.uk/145999. Accessed November 12, 2026.

[281] Covington and Burling LLP, "Court Enjoins Texas SB 25 Food Label Warning Requirement," February 12, 2026 (law firm analysis). https://www.cov.com/en/news-and-insights/insights/2026/02/court-enjoins-texas-sb-25-food-label-warning-requirement. Accessed November 12, 2026.

[282] FDA, "Agricultural Biotechnology," content current as of July 9, 2024. https://www.fda.gov/food/consumers/agricultural-biotechnology. Accessed November 12, 2026.

epidemiological data do not show associations between any disease or chronic conditions" and eating GE foods.[283]

The same report was careful about what it did not settle. The committee spoke of "the inherent difficulty of detecting subtle or long-term effects on health or the environment." It called for better testing methods, saying newer "-omics" technologies "will be critical to detecting unintended changes in new crop varieties." And it noted that "some weeds had evolved resistance to glyphosate," a weed killer used heavily with GE crops.[284]

The FDA's own consumer page puts it plainly: "GMO foods are as healthful and safe to eat as their non-GMO counterparts."[285] The FDA, USDA and EPA share the oversight. The FDA's page says the three agencies "have worked to ensure that GMOs are safe for people, animals, and the environment."[286] [The page I read did not spell out each agency's role in detail. In general terms, the FDA covers food safety, USDA covers plant health and the bioengineered label, and EPA covers pesticides, including those built into or used on engineered crops. Treat that split as my summary.]

So the science says the GE foods now on the market have not been shown to be less safe to eat than other foods. It does not say every possible future GE crop will be safe, and it does not settle debates about farming practices, weed resistance, seed patents or corporate power in agriculture. Those are real debates, but they are about economics and the environment more than food safety.

Why people still worry

If the major review found no difference in health risk, why do so many people still avoid GMO foods? From what I read, the concerns fall into a few groups, and most are not about whether the food is safe to eat.

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[283] National Academies of Sciences, Engineering, and Medicine, "Genetically Engineered Crops: Experiences and Prospects - New Report," news release, May 17, 2016. https://www.nationalacademies.org/news/2016/05/genetically-engineered-crops-experiences-and-prospects-new-report. Accessed November 12, 2026.

[284] National Academies of Sciences, Engineering, and Medicine, "Genetically Engineered Crops: Experiences and Prospects - New Report," news release, May 17, 2016. https://www.nationalacademies.org/news/2016/05/genetically-engineered-crops-experiences-and-prospects-new-report. Accessed November 12, 2026.

[285] FDA, "Agricultural Biotechnology," content current as of July 9, 2024. https://www.fda.gov/food/consumers/agricultural-biotechnology. Accessed November 12, 2026.

[286] FDA, "Agricultural Biotechnology," content current as of July 9, 2024. https://www.fda.gov/food/consumers/agricultural-biotechnology. Accessed November 12, 2026.

- **Weed killers.** Some engineered crops are built to tolerate weed killers such as glyphosate. [I did not quote a source on how many; this is a general description.] The National Academies noted that "some weeds had evolved resistance to glyphosate."[287] Some people avoid GMO foods as a way to avoid glyphosate. Chapter 13 and Claim 14 cover what is known about glyphosate itself.
- **Long-term effects.** The same report acknowledged "the inherent difficulty of detecting subtle or long-term effects."[288] That is honest uncertainty, not evidence of harm.
- **Business and farming.** Seed patents, the size of seed companies, and what crops farmers grow are real debates. They are economic and environmental questions more than food safety questions. [This sentence is my framing of the debate, not a quote from a source.]
- **The right to know.** Many people simply want to know what they are eating. The bioengineered label law was Congress's answer, though critics say its digital link and text message options make the information harder to find.[289] [The criticism of the digital link option is a common argument; I did not find it in an official document for this book.]

You might ask, "Should I buy non-GMO?" That is your call. If your reason is cancer or allergy risk from the engineering itself, the major review does not support that worry.[290] If your reason is farming practices or wanting to know what you eat, those are values, and the label rules in Chapter 7 can help you act on them.

Labeling

Chapter 7 explained the "bioengineered" label. In short, since a 2016 law, many foods with detectable genetically engineered material must disclose it, using text, a symbol, a digital

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[287] National Academies of Sciences, Engineering, and Medicine, "Genetically Engineered Crops: Experiences and Prospects - New Report," news release, May 17, 2016. https://www.nationalacademies.org/news/2016/05/genetically-engineered-crops-experiences-and-prospects-new-report. Accessed November 12, 2026.

[288] National Academies of Sciences, Engineering, and Medicine, "Genetically Engineered Crops: Experiences and Prospects - New Report," news release, May 17, 2016. https://www.nationalacademies.org/news/2016/05/genetically-engineered-crops-experiences-and-prospects-new-report. Accessed November 12, 2026.

[289] USDA AMS, "BE Disclosure" (National Bioengineered Food Disclosure Standard). https://www.ams.usda.gov/rules-regulations/be. Accessed November 12, 2026.

[290] National Academies of Sciences, Engineering, and Medicine, "Genetically Engineered Crops: Experiences and Prospects - New Report," news release, May 17, 2016. https://www.nationalacademies.org/news/2016/05/genetically-engineered-crops-experiences-and-prospects-new-report. Accessed November 12, 2026.

link or a text message option. Highly refined ingredients with no detectable modified genetic material are exempt.[291,292]

Chapter 13: Pesticide Residues

Who sets the limits

The EPA decides which pesticides can be used on food crops and sets the maximum amount of each pesticide allowed to remain on food. That maximum is called a tolerance. The FDA and USDA test foods and enforce the limits.[293]

The 1996 law

The modern rules come from the Food Quality Protection Act (FQPA), which President Bill Clinton signed on August 3, 1996. According to the EPA, it "amended" the federal pesticide law and the Federal Food, Drug, and Cosmetic Act "and thus fundamentally changed EPA's regulation of pesticides."[294]

Here is what the EPA says the FQPA requires:[295]

- A safety standard of "a reasonable certainty of no harm" for pesticide residues on food.
- "An additional tenfold (10X) safety factor" to protect infants and children, "unless adequate data are available to support a different factor."
- Looking at "aggregate risk from exposure to a pesticide from multiple sources (food, water, residential and other non-occupational sources)."

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[291] USDA AMS, "BE Disclosure" (National Bioengineered Food Disclosure Standard). https://www.ams.usda.gov/rules-regulations/be. Accessed November 12, 2026.

[292] USDA AMS, "BE Frequently Asked Questions - General." https://www.ams.usda.gov/rules-regulations/be/faq/general. Accessed November 12, 2026.

[293] Congressional Research Service (CRS), "The Federal Food Safety System: A Primer," RS22600, December 16, 2016 (copy hosted by EveryCRSReport.com). https://www.everycrsreport.com/files/20161216_RS22600_910156eb73ec572f200962acf53119bdfacf28ba.pdf. Accessed November 12, 2026.

[294] EPA, "Summary of the Food Quality Protection Act," last updated July 13, 2026. https://www.epa.gov/laws-regulations/summary-food-quality-protection-act. Accessed November 12, 2026.

[295] EPA, "Summary of the Food Quality Protection Act," last updated July 13, 2026. https://www.epa.gov/laws-regulations/summary-food-quality-protection-act. Accessed November 12, 2026.

- Looking at "cumulative exposure to pesticides that have common mechanisms of toxicity."
- Reassessing all existing limits over 10 years. In that review, "EPA revoked or modified almost 4,000" of "9,721 pesticide tolerances."

You might ask, "What does a tenfold safety factor mean?" It means that, unless there is good data showing otherwise, the EPA sets the allowed exposure for children ten times lower than it otherwise would. It is a built-in cushion for uncertainty. [This plain-language explanation is mine, based on the EPA's wording above.]

What testing shows

USDA runs the Pesticide Data Program, which tests foods for residues each year. Its report for calendar year 2024, released January 6, 2026, tested 9,872 samples from 19 kinds of food.[296,297]

Finding (calendar year 2024)	Result
Samples with residues below EPA tolerances	Over 99 percent
Samples with no detectable residue	42.3 percent
Samples with a residue above the tolerance	0.77 percent (76 samples)
Samples with a residue for which no tolerance exists for that food	3.7 percent (361 samples)

Source: USDA, Pesticide Data Program Annual Summary, Calendar Year 2024.[298]

How should you read that? Most food has residues below the legal limits, and more than four in ten samples had none at all. A small share had residues of a pesticide that has no approved limit on that particular food, [USDA's explanation of why those residues occur was not checked for this book, so I do not give one.] Being under the legal limit does not answer every question people have. Critics, including the Environmental Working Group (EWG), argue that limits do not fully account for exposure to many pesticides at once or for effects at low doses. [I tried to read EWG's current guide for this book, but the site did not

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[296] USDA AMS, "Pesticide Data Program Annual Summary, Calendar Year 2024," December 2025. https://www.ams.usda.gov/sites/default/files/media/PDPAnnualSummary.pdf. Accessed November 12, 2026.

[297] USDA AMS, "USDA Publishes 2024 Pesticide Data Program Annual Summary," press release, January 6, 2026. https://www.ams.usda.gov/node/45791. Accessed November 12, 2026.

[298] USDA AMS, "Pesticide Data Program Annual Summary, Calendar Year 2024," December 2025. https://www.ams.usda.gov/sites/default/files/media/PDPAnnualSummary.pdf. Accessed November 12, 2026.

load, so I do not quote it.] Supporters of the current system point to the safety margins built into the limits, such as the tenfold factor for children described above.[299]

Glyphosate

Glyphosate is the weed killer sold under brand names like Roundup. [It is often called the most widely used weed killer in the world; I did not check that on an official page.] In 2015, the International Agency for Research on Cancer (IARC), part of the World Health Organization, classified it as "probably carcinogenic to humans," as the EPA describes it.[300,301] The EPA, in its 2017 assessment, "concluded that glyphosate is not likely to be carcinogenic to humans," and said in August 2026 that it "is updating its evaluation of glyphosate's potential to cause cancer."[302] In 2022, the EPA withdrew its interim decision on glyphosate after a federal appeals court ruling.[303]

The legal fight reached the Supreme Court. On June 25, 2026, the Court decided Monsanto Co. v. Durnell. By a 7 to 2 vote, the Court held that the federal pesticide law, the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), "expressly preempts" the plaintiff's state-law claim that Monsanto should have warned of cancer risk on its label, according to NPR's report on the decision. Justice Brett Kavanaugh wrote for the majority.[304,305] [I read

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[299] EPA, "Summary of the Food Quality Protection Act," last updated July 13, 2026. https://www.epa.gov/laws-regulations/summary-food-quality-protection-act. Accessed November 12, 2026.

[300] IARC, "Q&A on Glyphosate," March 1, 2016 (refers to IARC Monographs Volume 112, 2015). https://www.iarc.who.int/news-events/qa-on-glyphosate/. Accessed November 12, 2026.

[301] EPA, "Glyphosate," last updated August 26, 2026. https://www.epa.gov/ingredients-used-pesticide-products/glyphosate. Accessed November 12, 2026.

[302] EPA, "Glyphosate," last updated August 26, 2026. https://www.epa.gov/ingredients-used-pesticide-products/glyphosate. Accessed November 12, 2026.

[303] U.S. Environmental Protection Agency (EPA), "EPA Withdraws Glyphosate Interim Decision," released September 23, 2022, last updated August 31, 2026. https://www.epa.gov/pesticides/epa-withdraws-glyphosate-interim-decision. Accessed November 12, 2026.

[304] NPR, "Supreme Court backs Monsanto in its fight against liability from popular weed killer," June 25, 2026. https://www.npr.org/2026/06/25/g-s1-120233/supreme-court-monsanto-roundup-decision. Accessed November 12, 2026.

[305] Supreme Court of the United States, Monsanto Co. v. Durnell, No. 24-1068, decided June 25, 2026. https://www.supremecourt.gov/opinions/25pdf/24-1068_n7ip.pdf. Accessed November 12, 2026.

NPR's account, not the full opinion.] Chapter 17 tests the claim that glyphosate residues in food cause cancer.

Chapter 14: Ultra-Processed Foods and the Dietary Guidelines

What "ultra-processed" means

Almost every food is processed in some way. Washing, cutting and freezing are processing. The term "ultra-processed" comes from a system called NOVA, created by Brazilian researcher Carlos Monteiro and colleagues. It sorts foods into four groups by how much they are changed from their natural state. Ultra-processed foods, the fourth group, are industrial products made mostly from ingredients you would not use at home, such as soda, packaged snacks, many breakfast cereals and instant noodles. [I did not read the original NOVA papers for this book, so the description of NOVA and its authors is Not verified.]

As of November 12, 2026, the U.S. government has no legal definition of ultra-processed food. On July 25, 2025, the FDA and USDA asked the public for input "to help develop a uniform definition of ultra-processed foods," with comments due September 23, 2025 (docket FDA-2025-N-1793).[306] A law firm alert from October 2026 says the agencies sent a proposed definition, described as a "white paper," to the White House Office of Management and Budget (OMB) for review, and that "as of Oct. 13, 2026, the text had not been released."[307] [The law firm says the comment period closed October 23, 2025. The Federal Register notice says September 23. The difference may be an extension I did not find.] The FDA's 2026 plan says it "will continue to collaborate with USDA ... to develop a federal government definition of UPFs."[308]

What the evidence shows

A controlled experiment. In 2019, Kevin Hall and colleagues at the National Institutes of Health (NIH) ran what NIH called "this small-scale study of 20 adult volunteers," 10 men and 10 women. Each person ate an ultra-processed diet and an unprocessed diet, "in random order for two weeks on each diet." On the ultra-processed diet, "people ate about 500 calories more per day than they did on the unprocessed diet," and "gained 0.9

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[306] FDA and USDA, "Ultra-Processed Foods; Request for Information," Federal Register, July 25, 2025, document 2025-14089 (GovInfo). https://www.govinfo.gov/content/pkg/FR-2025-07-25/html/2025-14089.htm. Accessed November 12, 2026.

[307] Greenberg Traurig LLP, "More Than Research? Why the Coming Federal Definition of Ultra-Processed Foods Matters," GT Alert, October 13, 2026 (law firm analysis). https://www.gtlaw.com/en/insights/2026/10/more-than-research-why-the-coming-federal-definition-of-ultra-processed-foods-matters. Accessed November 12, 2026.

[308] FDA, "Human Foods Program 2026 Priority Deliverables," content current as of February 10, 2026. https://www.fda.gov/about-fda/human-foods-program/human-foods-program-2026-priority-deliverables. Accessed November 12, 2026.

kilograms, or 2 pounds." Hall said: "This is the first study to demonstrate causality, that ultra-processed foods cause people to eat too many calories and gain weight." The study was published in Cell Metabolism.[309]

Observational studies. Many large studies have found that people who eat more ultra-processed food have higher rates of heart disease, type 2 diabetes, depression and early death. A 2024 umbrella review in the BMJ, led by Melissa M. Lane, pulled together "45 unique pooled analyses." It found "direct associations ... between exposure to ultra-processed foods and 32 (71%) health parameters." The links it rated as convincing were for heart disease deaths, type 2 diabetes, anxiety, and common mental disorders. The authors rated the quality of evidence for some of those links as low or very low, even where the association was strong.[310] [The first sentence of this paragraph, about "many large studies," is my summary of the field; the BMJ review is the source I checked.]

What is still debated. Most of the evidence is observational, which means it shows links, not proof of cause. People who eat a lot of ultra-processed food may also differ in income, exercise, smoking and other habits. And "ultra-processed" lumps together very different foods, from soda to whole-grain bread made in a factory. Some researchers argue the problem is specific nutrients like sugar, salt and refined starch, not processing as such. Others argue processing itself, such as softer textures that are eaten faster, plays a role. The Hall study suggests processing can matter, but it was small and short. [This paragraph is my summary of the debate, not a quote from a single source.]

The 2025-2030 Dietary Guidelines

Every five years, HHS and USDA publish the Dietary Guidelines for Americans. They shape school lunches, military meals and nutrition programs. The 2025-2030 edition came out on January 7, 2026.[311]

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[309] National Institutes of Health (NIH), "NIH study finds heavily processed foods cause overeating and weight gain," news release, May 16, 2019. https://www.nih.gov/news-events/news-releases/nih-study-finds-heavily-processed-foods-cause-overeating-weight-gain. Accessed November 12, 2026.

[310] Melissa M. Lane and others, "Ultra-processed food exposure and adverse health outcomes: umbrella review of epidemiological meta-analyses," BMJ 384 (2024), doi 10.1136/bmj-2023-077310 (record at Bond University Research Portal). https://research.bond.edu.au/en/publications/ultra-processed-food-exposure-and-adverse-health-outcomes-umbrell/. Accessed November 12, 2026.

[311] HHS, "Fact Sheet: Trump Administration Resets U.S. Nutrition Policy, Puts Real Food Back at the Center of Health," January 7, 2026. https://www.hhs.gov/press-room/fact-sheet-historic-reset-federal-nutrition-policy.html. Accessed November 12, 2026.

The HHS and USDA secretaries called it "the most significant reset of federal nutrition policy in our nation's history."[312] Here are the main points, from the guidelines themselves:[313]

- A message to "eat real food," with a new pyramid-style graphic.
- For the first time, federal guidelines call out "highly processed" foods by name and advise limiting them. The government's website says this advice "is not an attack on industry or a legal definition."[314]
- "No amount of added sugars or non-nutritive sweeteners is recommended," with a limit of 10 grams of added sugars per meal.
- Saturated fat should "not exceed 10% of total daily calories."
- A protein goal of 1.2 to 1.6 grams per kilogram of body weight per day.
- Full-fat dairy "with no added sugars," three servings a day on a 2,000-calorie plan.
- Two to four servings of whole grains a day.
- On alcohol: "Consume less alcohol for better overall health," with no specific limit.

Putting the guidelines on a plate

What does all this mean at the grocery store? Here is the new advice, side by side with a practical step. The quotes come from the guidelines; the steps are my own plain suggestions.

Key points of the 2025-2030 Dietary Guidelines, with practical steps. Guideline quotes are as published January 7, 2026.

The guideline says	A practical step
"No amount of added sugars or non-nutritive sweeteners is recommended," with no more than 10 grams of added sugars per meal[315]	Check the added sugars line on the Nutrition Facts label (Chapter 6).
Saturated fat should "not exceed 10% of total daily calories"[316]	Watch the saturated fat %DV, especially if you are adding full-fat

[312] HHS and USDA, "Dietary Guidelines for Americans, 2025-2030," January 2026. https://cdn.realfood.gov/DGA.pdf. Accessed November 12, 2026.

[313] HHS and USDA, "Dietary Guidelines for Americans, 2025-2030," January 2026. https://cdn.realfood.gov/DGA.pdf. Accessed November 12, 2026.

[314] HHS and USDA, RealFood.gov (Dietary Guidelines website). https://realfood.gov/. Accessed November 12, 2026.

[315] HHS and USDA, "Dietary Guidelines for Americans, 2025-2030," January 2026. https://cdn.realfood.gov/DGA.pdf. Accessed November 12, 2026.

[316] HHS and USDA, "Dietary Guidelines for Americans, 2025-2030," January 2026. https://cdn.realfood.gov/DGA.pdf. Accessed November 12, 2026.

The guideline says	A practical step
	dairy.
Protein goal of 1.2 to 1.6 grams per kilogram of body weight per day[317]	Ask your doctor what fits you; critics say this target is higher than most people need.[318]
Full-fat dairy "with no added sugars," three servings a day on a 2,000-calorie plan[319]	Plain milk, yogurt and cheese, not sweetened versions.
Two to four servings of whole grains a day[320]	Look for "whole" as the first word in the ingredient list. [This tip is mine, not from the guidelines.]
"Consume less alcohol for better overall health"[321]	The guidelines give no number.

Remember the warning at the start of this book. The Dietary Guidelines are written for the general population. If you have a health condition, your doctor's advice comes first.

Praise and criticism

The reaction split along interesting lines, and not just party lines.

Harvard's T.H. Chan School of Public Health published a review on January 9, 2026. It praised the stronger stance on added sugar, the call-out of highly processed foods, and the focus on whole grains. One of its nutrition scientists, Frank Hu, said the new guidelines "move in the right direction."[322]

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[317] HHS and USDA, "Dietary Guidelines for Americans, 2025-2030," January 2026. https://cdn.realfood.gov/DGA.pdf. Accessed November 12, 2026.

[318] Brett O. Otis, "Dietary Guidelines for Americans 2025-2030: Progress on added sugar, protein hype, saturated fat contradictions," The Nutrition Source, Harvard T.H. Chan School of Public Health, January 9, 2026. https://nutritionsource.hsph.harvard.edu/2026/01/09/dietary-guidelines-for-americans-2025-2030/. Accessed November 12, 2026.

[319] HHS and USDA, "Dietary Guidelines for Americans, 2025-2030," January 2026. https://cdn.realfood.gov/DGA.pdf. Accessed November 12, 2026.

[320] HHS and USDA, "Dietary Guidelines for Americans, 2025-2030," January 2026. https://cdn.realfood.gov/DGA.pdf. Accessed November 12, 2026.

[321] HHS and USDA, "Dietary Guidelines for Americans, 2025-2030," January 2026. https://cdn.realfood.gov/DGA.pdf. Accessed November 12, 2026.

[322] Brett O. Otis, "Dietary Guidelines for Americans 2025-2030: Progress on added sugar, protein hype, saturated fat contradictions," The Nutrition Source, Harvard T.H. Chan School of Public Health, January 9, 2026.

The same review criticized several points. It said "highly processed" is vague, because processing is a spectrum. It said the pyramid's visual emphasis on steak, cheese, whole milk and butter conflicts with the 10 percent saturated fat limit. It called the protein target "hype" and likely higher than most people need. It said "consume less" alcohol is too vague to act on. And it raised concerns about the process: the scientific advisory committee's report was set aside and replaced with a separate analysis by contractors.[323]

Supporters of the new guidelines, including HHS Secretary Robert F. Kennedy Jr. and USDA Secretary Brooke Rollins, argue that decades of low-fat advice failed, that Americans need more protein and less sugar and processed food, and that the old guidelines were too influenced by industry. [This is my summary of the supporters' case; I did not find one official statement making all these points.] The administration's 2025 assessment put the concern this way: "Nearly 70% of children's calories now come from UPFs."[324]

Part Five: Outbreaks and Recalls

The figures in this part are the newest official estimates available as of November 12, 2026. Each table gives the date of its source.

Chapter 15: How Common Is Food Poisoning?

You have probably heard that one in six Americans gets food poisoning every year. Where does that come from, and is it still true? The honest answer is that it depends on which CDC page you read, and the reason is worth understanding.

Two sets of numbers

The CDC's consumer page, "Facts About Food Poisoning," last updated November 24, 2025, says: "CDC estimates that 48 million people get sick from a foodborne illness every year. Of

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https://nutritionsource.hsph.harvard.edu/2026/01/09/dietary-guidelines-for-americans-2025-2030/. Accessed November 12, 2026.

[323] Brett O. Otis, "Dietary Guidelines for Americans 2025-2030: Progress on added sugar, protein hype, saturated fat contradictions," The Nutrition Source, Harvard T.H. Chan School of Public Health, January 9, 2026. https://nutritionsource.hsph.harvard.edu/2026/01/09/dietary-guidelines-for-americans-2025-2030/. Accessed November 12, 2026.

[324] Make America Healthy Again Commission, "Make Our Children Healthy Again Assessment," The White House, released May 22, 2025. https://www.whitehouse.gov/wp-content/uploads/2025/05/MAHA-Report-The-White-House.pdf. Accessed November 12, 2026.

those, 128,000 are hospitalized and 3,000 die."[325] Those numbers come from a CDC study published in 2011. GAO describes them as the 2011 estimates.[326]

In 2025, the CDC published a newer study using data from around 2019. It looked only at seven major germs that are known to cause foodborne illness. It found:[327]

Estimated yearly U.S. domestically acquired foodborne illness from seven major pathogens, circa 2019. Source: CDC, last updated March 19, 2025.[328]

Germ	Illnesses	Hospitalizations	Deaths
Norovirus	5,540,000	22,400	174
Campylobacter	1,870,000	13,000	197
Salmonella (nontyphoidal)	1,280,000	12,500	238
Clostridium perfringens	889,000	338	41
Shiga toxin-producing E. coli (STEC)	357,000	3,150	66
Listeria monocytogenes	1,250	1,070	172
Toxoplasma gondii	Not estimated	848	44
Total	9.9 million (six germs)	53,300 (seven germs)	931 (seven germs)

Why are the numbers so different?

You might ask, "Did food poisoning drop from 48 million to under 10 million?" No, and the CDC does not claim that. The two studies count different things. The 2011 study included illnesses from unknown or unspecified causes, which made up most of its total. The 2025 study counted only seven known germs. GAO, reviewing both, says "the estimates cannot

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[325] CDC, "Facts About Food Poisoning," last updated November 24, 2025. https://www.cdc.gov/food-safety/data-research/facts-stats/index.html. Accessed November 12, 2026.

[326] U.S. Government Accountability Office (GAO), "Food Safety: Status of Foodborne Illness in the U.S.," GAO-25-107606, February 3, 2025. https://www.gao.gov/assets/gao-25-107606.pdf. Accessed November 12, 2026.

[327] Centers for Disease Control and Prevention (CDC), "Estimates: Burden of Foodborne Illness in the United States," last updated March 19, 2025. https://www.cdc.gov/food-safety/php/data-research/foodborne-illness-burden/index.html. Accessed November 12, 2026.

[328] Centers for Disease Control and Prevention (CDC), "Estimates: Burden of Foodborne Illness in the United States," last updated March 19, 2025. https://www.cdc.gov/food-safety/php/data-research/foodborne-illness-burden/index.html. Accessed November 12, 2026.

be directly compared or used to measure changes in the incidence of foodborne illness over time."[329]

Here is how I read it. About 10 million illnesses a year from just seven well-known germs is a confirmed, recent estimate. The total from all causes, known and unknown, is likely higher, but the CDC has not published a new all-cause number to replace the 2011 figure. So when you see "48 million," know that it is an older estimate that the CDC still uses on its consumer page, and that it includes illnesses whose cause is unknown.

The uncertainty is real. GAO reports the 2025 study's range for deaths from the seven germs as 530 to 1,460 a year, around the middle estimate of 931.[330]

Which germs matter most

According to the CDC's 2025 estimates:[331]

- **Norovirus** causes the most illnesses. It is the "stomach bug" that spreads fast on cruise ships and in restaurants, often from sick food workers.
- **Salmonella** causes the most deaths among the seven.
- **Listeria** is rare, but almost everyone who gets a serious case is hospitalized, and it kills more than one in eight of the people it sickens in these estimates (172 deaths out of 1,250 illnesses). It is especially dangerous for pregnant women, newborns, older adults and people with weak immune systems.

Who is most at risk

Food poisoning can hit anyone, but it does not hit everyone equally. For Listeria, the CDC lists four groups at higher risk: "pregnant women," "newborns," "adults aged 65 or older," and "people with weakened immune systems."[332] For raw milk germs, the CDC names

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[329] U.S. Government Accountability Office (GAO), "Food Safety: Status of Foodborne Illness in the U.S.," GAO-25-107606, February 3, 2025. https://www.gao.gov/assets/gao-25-107606.pdf. Accessed November 12, 2026.

[330] U.S. Government Accountability Office (GAO), "Food Safety: Status of Foodborne Illness in the U.S.," GAO-25-107606, February 3, 2025. https://www.gao.gov/assets/gao-25-107606.pdf. Accessed November 12, 2026.

[331] Centers for Disease Control and Prevention (CDC), "Estimates: Burden of Foodborne Illness in the United States," last updated March 19, 2025. https://www.cdc.gov/food-safety/php/data-research/foodborne-illness-burden/index.html. Accessed November 12, 2026.

[332] CDC, "About Listeria Infection," August 2, 2024. https://www.cdc.gov/listeria/about/index.html. Accessed November 12, 2026.

"children under 5, adults over 65, pregnant women, and people with weakened immune systems."[333]

You will notice the same groups again and again. Young children have immune systems that are still developing. Older adults and people with conditions like cancer, diabetes or organ transplants often have weaker defenses. Pregnancy changes the immune system too, and some germs, like Listeria, can reach the baby. [This paragraph is my plain summary of why these groups are at risk; the CDC pages I cite list the groups but I did not quote their explanations.]

If you are in one of these groups, or you cook for someone who is, the advice in Chapter 16 about cooking temperatures and keeping raw foods apart matters more for you.

The germs, one at a time

Here is a plain guide to the seven germs in the CDC's 2025 estimates. The numbers are the CDC's middle estimates for one year, around 2019.[334]

Norovirus. About 5.5 million foodborne illnesses a year, more than any other germ in the study.[335] It is a virus, not bacteria. The CDC calls it "the leading cause of vomiting and diarrhea, and foodborne illness in the United States." Symptoms usually start "12 to 48 hours after being exposed," and it spreads by contact with a sick person or by "eating food handled by them."[336] It caused 174 deaths in the estimates, far fewer than its huge case count might suggest.[337]

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[333] CDC, "Raw Milk," last updated January 31, 2025. https://www.cdc.gov/food-safety/foods/raw-milk.html. Accessed November 12, 2026.

[334] Centers for Disease Control and Prevention (CDC), "Estimates: Burden of Foodborne Illness in the United States," last updated March 19, 2025. https://www.cdc.gov/food-safety/php/data-research/foodborne-illness-burden/index.html. Accessed November 12, 2026.

[335] Centers for Disease Control and Prevention (CDC), "Estimates: Burden of Foodborne Illness in the United States," last updated March 19, 2025. https://www.cdc.gov/food-safety/php/data-research/foodborne-illness-burden/index.html. Accessed November 12, 2026.

[336] CDC, "About Norovirus," April 24, 2024. https://www.cdc.gov/norovirus/about/index.html. Accessed November 12, 2026.

[337] Centers for Disease Control and Prevention (CDC), "Estimates: Burden of Foodborne Illness in the United States," last updated March 19, 2025. https://www.cdc.gov/food-safety/php/data-research/foodborne-illness-burden/index.html. Accessed November 12, 2026.

Campylobacter. About 1.9 million illnesses and 197 deaths.[338] Raw and undercooked chicken is a common source. The CDC says raw chicken "can be contaminated with Campylobacter, Salmonella, or Clostridium perfringens germs."[339]

Salmonella. About 1.3 million illnesses, 12,500 hospitalizations and 238 deaths, the most deaths of any of the seven.[340] The CDC says "Salmonella causes more foodborne illnesses than any other bacteria," and estimates that about "1 in 25" packages of chicken at the store are contaminated with it.[341] In FoodNet's 2024 preliminary data, Salmonella made up 9,219 of the 24,624 lab-confirmed infections.[342]

Clostridium perfringens. About 889,000 illnesses, but only 338 hospitalizations.[343] It is often linked to large batches of food, like a big pot of stew or a tray of meat, that are kept warm too long. [The link to large batches kept warm is widely taught but I did not confirm it on a CDC page for this book.]

Shiga toxin-producing E. coli (STEC). About 357,000 illnesses and 66 deaths.[344] This is the group that includes E. coli O157:H7, the germ behind the 1993 hamburger outbreak

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[338] Centers for Disease Control and Prevention (CDC), "Estimates: Burden of Foodborne Illness in the United States," last updated March 19, 2025. https://www.cdc.gov/food-safety/php/data-research/foodborne-illness-burden/index.html. Accessed November 12, 2026.

[339] CDC, "Chicken and Food Poisoning," last updated April 29, 2024. https://www.cdc.gov/food-safety/foods/chicken.html. Accessed November 12, 2026.

[340] Centers for Disease Control and Prevention (CDC), "Estimates: Burden of Foodborne Illness in the United States," last updated March 19, 2025. https://www.cdc.gov/food-safety/php/data-research/foodborne-illness-burden/index.html. Accessed November 12, 2026.

[341] CDC, "Chicken and Food Poisoning," last updated April 29, 2024. https://www.cdc.gov/food-safety/foods/chicken.html. Accessed November 12, 2026.

[342] CDC, "FoodNet 2024 Preliminary Data," page dated April 29, 2026. https://www.cdc.gov/foodnet/reports/preliminary-data.html. Accessed November 12, 2026.

[343] Centers for Disease Control and Prevention (CDC), "Estimates: Burden of Foodborne Illness in the United States," last updated March 19, 2025. https://www.cdc.gov/food-safety/php/data-research/foodborne-illness-burden/index.html. Accessed November 12, 2026.

[344] Centers for Disease Control and Prevention (CDC), "Estimates: Burden of Foodborne Illness in the United States," last updated March 19, 2025. https://www.cdc.gov/food-safety/php/data-research/foodborne-illness-burden/index.html. Accessed November 12, 2026.

and the 2006 spinach outbreak (Chapter 16). It can cause a kind of kidney failure called hemolytic uremic syndrome (HUS), especially in children.[345,346] FoodNet counted 3,635 STEC infections in 2024.[347]

Listeria monocytogenes. Only about 1,250 illnesses, but 1,070 hospitalizations and 172 deaths.[348] That ratio is what makes Listeria so feared. Most of the deadliest outbreaks in Chapter 16, such as the 2011 cantaloupe outbreak and the 2024 deli meat outbreak, were Listeria.[349,350]

Toxoplasma gondii. A parasite. The CDC did not estimate illnesses for it, but did estimate 848 hospitalizations and 44 deaths.[351]

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[345] CDC, "Update: Multistate Outbreak of Escherichia coli O157:H7 Infections from Hamburgers -- Western United States, 1992-1993," Morbidity and Mortality Weekly Report 42, no. 14 (April 16, 1993). https://www.cdc.gov/mmwr/preview/mmwrhtml/00020219.htm. Accessed November 12, 2026.

[346] CDC, "2006 E. coli Outbreak Linked to Fresh Spinach," posted October 6, 2006 (archived). https://archive.cdc.gov/www_cdc_gov/ecoli/2006/spinach-10-2006.html. Accessed November 12, 2026.

[347] CDC, "FoodNet 2024 Preliminary Data," page dated April 29, 2026. https://www.cdc.gov/foodnet/reports/preliminary-data.html. Accessed November 12, 2026.

[348] Centers for Disease Control and Prevention (CDC), "Estimates: Burden of Foodborne Illness in the United States," last updated March 19, 2025. https://www.cdc.gov/food-safety/php/data-research/foodborne-illness-burden/index.html. Accessed November 12, 2026.

[349] CDC, "2011 Outbreak of Listeria Infections Linked to Whole Cantaloupes from Jensen Farms, Colorado," final update addendum August 27, 2012 (archived). https://archive.cdc.gov/www_cdc_gov/listeria/outbreaks/cantaloupes-jensen-farms/index.html. Accessed November 12, 2026.

[350] CDC, "Listeria Outbreak Linked to Meats Sliced at Delis," published August 14, 2024, updated January 31, 2025. https://www.cdc.gov/listeria/outbreaks/delimeats-7-24/index.html. Accessed November 12, 2026.

[351] Centers for Disease Control and Prevention (CDC), "Estimates: Burden of Foodborne Illness in the United States," last updated March 19, 2025. https://www.cdc.gov/food-safety/php/data-research/foodborne-illness-burden/index.html. Accessed November 12, 2026.

Outbreaks are only a small slice

When food poisoning makes the news, it is usually an outbreak, when two or more people get sick from the same source. But outbreaks are a small share of all illness. GAO reports that more than 9,000 foodborne outbreaks were reported from 2011 through 2022.[352] That sounds like a lot. Compare it with the roughly 10 million illnesses a year from just seven germs, and you can see that most food poisoning happens one person or one family at a time, never linked to any outbreak.[353]

That matters for how you think about safety. Recalls and outbreak investigations catch the big failures. The everyday cases are mostly prevented, or not, in restaurants and home kitchens.

Are things getting better?

CDC tracks lab-confirmed infections in a network of sites called FoodNet, which covers part of the U.S. population. In its preliminary 2024 data, FoodNet sites reported 24,624 infections, 6,746 hospitalizations and 178 deaths. Compared with the average for 2016 to 2018, infections "either increased or were similar." Rates went up for Cyclospora, Shigella, STEC, Vibrio and Yersinia, and stayed about the same for Listeria and Salmonella.[354]

One caution for the future: starting with data collected on or after July 1, 2025, FoodNet made reporting optional for every germ except Salmonella and STEC.[355] That means trends for other germs may be harder to track in coming years.

GAO looked at the government's own targets. Under the federal Healthy People 2030 goals, the target for Salmonella infections is 11.5 per 100,000 people. GAO reported the current

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[352] U.S. Government Accountability Office (GAO), "Food Safety: Status of Foodborne Illness in the U.S.," GAO-25-107606, February 3, 2025. https://www.gao.gov/assets/gao-25-107606.pdf. Accessed November 12, 2026.

[353] Centers for Disease Control and Prevention (CDC), "Estimates: Burden of Foodborne Illness in the United States," last updated March 19, 2025. https://www.cdc.gov/food-safety/php/data-research/foodborne-illness-burden/index.html. Accessed November 12, 2026.

[354] CDC, "FoodNet 2024 Preliminary Data," page dated April 29, 2026. https://www.cdc.gov/foodnet/reports/preliminary-data.html. Accessed November 12, 2026.

[355] CDC, "About FoodNet," last reviewed April 28, 2026. https://www.cdc.gov/foodnet/about/index.html. Accessed November 12, 2026.

rate at 14.4. [These two figures come from a summary of the GAO report rather than text I read word for word; marked Not verified until checked.][356]

What it costs

USDA's Economic Research Service estimates that foodborne illness cost the U.S. $74.7 billion in 2023 dollars (adjusted for inflation to 2023). That counts medical costs, lost work and the value placed on lives lost. Salmonella alone accounted for about $17.1 billion. Listeria is rare but costly, at about $2.5 million per case, because so many cases are fatal or cause lasting harm. The ERS says its current estimates "should not be used in comparison with previous estimates" because the method changed.[357]

How illness is counted

Most people who get food poisoning never see a doctor, and most who do never get tested. For every lab-confirmed case of foodborne Salmonella, the CDC estimates there are 29 illnesses.[358] That is why the CDC builds its estimates with statistical models instead of simple counts.

Chapter 16: The Outbreaks That Changed the Rules

Case counts in this chapter are the final or latest official counts available as of November 12, 2026.

Food safety law in America has mostly been written after something went wrong. The Jungle and the Poison Squad led to the 1906 laws. A poisoned medicine led to the 1938 law (Chapter 3). This chapter covers the modern outbreaks that did the same thing, and then explains how recalls work today.

You might ask, "Why go through old outbreaks at all?" Because each one exposed a specific gap, and most of today's rules are patches on those gaps. If you know the outbreak, you know why the rule exists.

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[356] U.S. Government Accountability Office (GAO), "Food Safety: Status of Foodborne Illness in the U.S.," GAO-25-107606, February 3, 2025. https://www.gao.gov/assets/gao-25-107606.pdf. Accessed November 12, 2026.

[357] USDA Economic Research Service (ERS), "Cost Estimates of Foodborne Illnesses," updated June 16, 2026. https://www.ers.usda.gov/data-products/cost-estimates-of-foodborne-illnesses/. Accessed November 12, 2026.

[358] U.S. Government Accountability Office (GAO), "Food Safety: Status of Foodborne Illness in the U.S.," GAO-25-107606, February 3, 2025. https://www.gao.gov/assets/gao-25-107606.pdf. Accessed November 12, 2026.

How an outbreak is found

An outbreak is two or more people getting the same illness from the same food or drink. The CDC describes a multistate outbreak as "two or more people with a similar illness that have evidence of a common source."[359] Most outbreaks are found the same way. Sick people see a doctor, a lab tests a sample, and the lab sends the germ to a public health lab. Public health labs compare the germ's genetic fingerprint. When germs from people in different places match, investigators interview the sick people about what they ate and look for a food they have in common. That matching is done by PulseNet, which the CDC describes as "a national laboratory network consisting of 83 public health and food regulatory laboratories." It "uses the DNA fingerprints of bacteria making people sick to detect thousands of local and multistate outbreaks."[360]

How many are there? In 2024, the CDC and its partners confirmed 62 multistate outbreaks of the germs it tracks this way. Those outbreaks caused 2,605 illnesses, 861 hospitalizations and 36 deaths. Investigators found the source of 45 of them. Twenty-nine were traced to food, and 16 to contact with animals.[361] Those numbers cover only outbreaks that crossed state lines and only four germs, so they are a small slice of all food poisoning (Chapter 15).

That is slow work. It can take weeks from the time someone eats a food to the time the food is named. By then, much of the food may already be eaten or thrown away.

1993: Jack in the Box and the hamburger that changed meat inspection

In late 1992 and early 1993, people in four Western states, many of them children, fell ill with E. coli O157:H7, a germ that can cause bloody diarrhea and kidney failure. The CDC's report at the time said "more than 500 laboratory-confirmed infections with E. coli O157:H7 and four associated deaths occurred in four states": Washington, Idaho, California and Nevada.[362] A later CDC retrospective put it at "approximately 700 persons in four

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[359] CDC, "Summary of Possible Multistate Enteric (Intestinal) Disease Outbreaks in 2024," April 21, 2026. https://www.cdc.gov/foodborne-outbreaks/php/data-research/summary-2024.html. Accessed November 12, 2026.

[360] CDC, "About PulseNet," reviewed September 9, 2026. https://www.cdc.gov/pulsenet/about/index.html. Accessed November 12, 2026.

[361] CDC, "Summary of Possible Multistate Enteric (Intestinal) Disease Outbreaks in 2024," April 21, 2026. https://www.cdc.gov/foodborne-outbreaks/php/data-research/summary-2024.html. Accessed November 12, 2026.

[362] CDC, "Update: Multistate Outbreak of Escherichia coli O157:H7 Infections from Hamburgers -- Western United States, 1992-1993," Morbidity and Mortality Weekly Report 42, no. 14 (April 16, 1993). https://www.cdc.gov/mmwr/preview/mmwrhtml/00020219.htm. Accessed November 12, 2026.

states" and said "four children died."[363] The difference is between confirmed lab cases counted in April 1993 and the fuller count afterward.

In Washington alone, 144 of 477 patients were hospitalized, 30 developed hemolytic uremic syndrome (HUS), a type of kidney failure, and three died.[364]

The CDC's report named the source only as "chain A," a fast-food restaurant chain. It is widely reported to have been Jack in the Box. [The chain's name is not in the CDC reports I read, so I mark it Not verified here.] Investigators found that "undercooking of hamburger patties likely played an important role." The FDA's interim advice was to "increase the internal temperature for cooked hamburgers to 155 F."[365]

What changed? The CDC's PulseNet network "was developed in response to the 1993 Escherichia coli O157:H7 outbreak that caused more than 700 people to get sick, and four deaths." It began in 1996.[366] A CDC retrospective says the outbreak "led to important changes in food safety practices, such as increasing the recommended internal temperature in cooked hamburgers."[367] USDA acted too. "In August 1994, FSIS declared E. coli an adulterant," meaning raw ground beef found to carry E. coli O157:H7 could not be sold as is and "required further processing to destroy E. coli O157:H7." On October 17, 1994, FSIS

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[363] CDC, "Notice to Readers: Special Podcast: Defining Moments in MMWR History -- E. coli O157:H7," Morbidity and Mortality Weekly Report 66, no. 21 (June 2, 2017). https://www.cdc.gov/mmwr/volumes/66/wr/mm6621a5.htm. Accessed November 12, 2026.

[364] CDC, "Update: Multistate Outbreak of Escherichia coli O157:H7 Infections from Hamburgers -- Western United States, 1992-1993," Morbidity and Mortality Weekly Report 42, no. 14 (April 16, 1993). https://www.cdc.gov/mmwr/preview/mmwrhtml/00020219.htm. Accessed November 12, 2026.

[365] CDC, "Update: Multistate Outbreak of Escherichia coli O157:H7 Infections from Hamburgers -- Western United States, 1992-1993," Morbidity and Mortality Weekly Report 42, no. 14 (April 16, 1993). https://www.cdc.gov/mmwr/preview/mmwrhtml/00020219.htm. Accessed November 12, 2026.

[366] CDC, "About PulseNet," reviewed September 9, 2026. https://www.cdc.gov/pulsenet/about/index.html. Accessed November 12, 2026.

[367] Patricia M. Griffin, Robert V. Tauxe, Balasubra Swaminathan and Beth P. Bell, "How deadly burgers made food safer: the impact of the 1993 E. coli O157 outbreak," CDC "We Were There" series, June 15, 2017. https://stacks.cdc.gov/view/cdc/49220. Accessed November 12, 2026.

began a testing program.[368] For the first time, a germ on raw meat was treated as a legal defect, not just a cooking problem.

The lesson: a germ that lives quietly in cattle could kill children through a normal family meal, and the old way of inspecting meat, by sight and smell, could not see it.

2006: Bagged spinach

In 2006, E. coli O157:H7 turned up in bagged fresh spinach. By the CDC's October 6, 2006, count, "199 persons infected with the outbreak strain of E. coli O157:H7 have been reported to CDC from 26 states." Of those, "102 (51%) were hospitalized and 31 (16%) developed a type of kidney failure called hemolytic-uremic syndrome (HUS)." There were three deaths among confirmed cases.[369]

The spinach outbreak showed that produce, which people eat raw, can carry the same deadly germs as undercooked meat. It is one of the outbreaks people point to as the background for the 2011 food safety law and its produce rule (Chapter 5).[370]

2008 and 2009: Peanut Corporation of America

In late 2008, Salmonella Typhimurium began making people sick across the country. The source was peanut butter and peanut paste from the Peanut Corporation of America (PCA) plant in Blakely, Georgia. The paste went into crackers, cookies and other products made by many companies, which is why the recall grew so large.[371]

The CDC's final count: "714 persons infected with the outbreak strain of Salmonella Typhimurium have been reported from 46 states." About a quarter of those with information were hospitalized, and the infection "may have contributed to nine deaths."[372]

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[368] USDA FSIS, "Risk Assessment of E. coli O157:H7 in Ground Beef" (includes data through July 2001). https://www.fsis.usda.gov/node/2003. Accessed November 12, 2026.

[369] CDC, "2006 E. coli Outbreak Linked to Fresh Spinach," posted October 6, 2006 (archived). https://archive.cdc.gov/www_cdc_gov/ecoli/2006/spinach-10-2006.html. Accessed November 12, 2026.

[370] FDA, "Food Safety Modernization Act (FSMA)," content current as of February 5, 2024. https://www.fda.gov/food/guidance-regulation-food-and-dietary-supplements/food-safety-modernization-act-fsma. Accessed November 12, 2026.

[371] CDC, "2008-2009 Salmonella Outbreak Linked to Peanut Butter," final update posted May 11, 2009 (archived). https://archive.cdc.gov/www_cdc_gov/salmonella/2009/peanut-butter-2008-2009.html. Accessed November 12, 2026.

[372] CDC, "2008-2009 Salmonella Outbreak Linked to Peanut Butter," final update posted May 11, 2009 (archived).

This case became famous because of what happened afterward. PCA's former president, Stewart Parnell, "was sentenced to 28 years in prison for knowingly shipping salmonella-tainted peanut butter," a sentence the Justice Department called "the harshest criminal sentence ever in a food safety case," according to NPR. His brother Michael Parnell got 20 years, and a plant manager got five.[373]

The lesson: one supplier can reach thousands of products, and a company that hides test results can put the whole country at risk.

2011: Cantaloupes from Jensen Farms

In 2011, cantaloupes from Jensen Farms in Colorado caused one of the deadliest foodborne outbreaks in modern U.S. history. The CDC's final count: "A total of 147 persons infected with any of the five outbreak-associated subtypes of Listeria monocytogenes were reported to CDC from 28 states." Almost all, 143, were hospitalized. "In total, 33 deaths from outbreak-associated cases of listeriosis have been reported," and "one woman pregnant at the time of illness had a miscarriage."[374]

Listeria is unusual. It hits pregnant women, newborns, older adults and people with weak immune systems hardest (Chapter 15). That is why this outbreak was so deadly even though fewer people got sick than in the peanut case.

2015: Blue Bell ice cream

In 2015, Listeria was found in Blue Bell ice cream. The Justice Department later said the outbreak strain "sickened five patients at a Kansas hospital with listeriosis."[375] [The CDC's outbreak-wide count was not checked for this book.]

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https://archive.cdc.gov/www_cdc_gov/salmonella/2009/peanut-butter-2008-2009.html. Accessed November 12, 2026.

[373] NPR, "Peanut Corp. Exec Gets 28 Years For Role In Deadly Salmonella Outbreak," The Two-Way, September 21, 2015. https://www.npr.org/sections/thetwo-way/2015/09/21/442273854/former-peanut-company-exec-could-get-life-sentence-in-deadly-salmonella-outbreak. Accessed November 12, 2026.

[374] CDC, "2011 Outbreak of Listeria Infections Linked to Whole Cantaloupes from Jensen Farms, Colorado," final update addendum August 27, 2012 (archived). https://archive.cdc.gov/www_cdc_gov/listeria/outbreaks/cantaloupes-jensen-farms/index.html. Accessed November 12, 2026.

[375] U.S. Department of Justice, "Blue Bell Creameries Ordered To Pay $17.25 Million In Criminal Penalties In Connection With 2015 Listeria Contamination," press release 20-955, September 17, 2020. https://www.justice.gov/archives/opa/pr/blue-bell-creameries-ordered-pay-1725-million-criminal-penalties-connection-2015-listeria. Accessed November 12, 2026.

In May 2020, Blue Bell "pleaded guilty ... to two misdemeanor counts of distributing adulterated ice cream products." In September 2020, a federal judge ordered the company "to pay $17.25 million in criminal penalties," which the Justice Department called the "largest-ever criminal penalty following a conviction in a food safety case."[376]

The lesson: a company can face federal criminal charges for shipping contaminated food. Blue Bell pleaded guilty to misdemeanors, not to intending harm.

2018: Romaine lettuce

In 2018, romaine lettuce from the Yuma, Arizona, growing region caused an E. coli O157:H7 outbreak. The CDC's final count was "210 people infected with the outbreak strain ... from 36 states." Ninety-six were hospitalized, "including 27 people who developed a type of kidney failure called hemolytic uremic syndrome," and five died.[377]

Outbreaks like this one show how hard it can be to trace fresh produce back to a single farm, because shoppers rarely know where their lettuce came from. That gap is what the FDA's food traceability rule is meant to close. Its compliance date was pushed back to July 2028 (Chapter 5).[378]

2022: Infant formula

In 2022, the FDA "received information about four cases of illness or death in infants who consumed powdered infant formula" made at Abbott Nutrition's plant in Sturgis, Michigan. "On Feb. 17, 2022, Abbott Nutrition issued a voluntary recall ... and temporarily ceased production."[379] The shutdown was followed by a nationwide shortage of infant formula, and the FDA's own review said federal agencies lacked the tools to manage it. The FDA counted four sick infants, all hospitalized, and two deaths, saying "Cronobacter infection

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[376] U.S. Department of Justice, "Blue Bell Creameries Ordered To Pay $17.25 Million In Criminal Penalties In Connection With 2015 Listeria Contamination," press release 20-955, September 17, 2020. https://www.justice.gov/archives/opa/pr/blue-bell-creameries-ordered-pay-1725-million-criminal-penalties-connection-2015-listeria. Accessed November 12, 2026.

[377] CDC, "2018 E. coli Outbreak Linked to Romaine Lettuce," posted June 28, 2018 (archived). https://archive.cdc.gov/www_cdc_gov/ecoli/2018/o157h7-04-18/index.html. Accessed November 12, 2026.

[378] FDA, "FSMA Final Rule on Requirements for Additional Traceability Records for Certain Foods," content current as of November 4, 2026. https://www.fda.gov/food/food-safety-modernization-act-fsma/fsma-final-rule-requirements-additional-traceability-records-certain-foods. Accessed November 12, 2026.

[379] FDA, "FDA Evaluation of Infant Formula Response," led by Steven M. Solomon, September 2022. https://www.fda.gov/media/161689/download. Accessed November 12, 2026.

may have contributed to the cause of death for both patients." On May 16, 2022, a federal court in Michigan entered a consent decree between the FDA and Abbott setting conditions for the plant to reopen.[380]

The FDA ordered an internal review, led by Dr. Steven Solomon, and published the results in September 2022. It was unusually frank. It found:[381]

- "Inadequate processes and lack of clarity related to whistleblower complaints may have delayed the FDA's response."
- A complaint mailed to agency leaders "was not delivered to the addressees."
- "Some samples taken from the Abbott Nutrition facility in Sturgis were delayed in transit by third party delivery companies."
- "The technology that supports some of these systems is outdated."
- "Funding limitations have stalled the growth of the foods program."
- The FDA "does not have the authority to require manufacturers of infant formulas" to tell it about possible shortages.

This report is part of why the FDA reorganized its food work into a single Human Foods Program (Chapter 5).[382] [The link between the report and the reorganization is my reading; I did not find an FDA statement saying so directly.]

2024: Boar's Head deli meat

In the summer of 2024, Listeria in deli meats sliced at store counters caused a deadly outbreak. The CDC's final count: "Cases: 61"; "Hospitalizations: 60"; "Deaths: 10"; "States: 19." The CDC linked it to a recall by Boar's Head Provisions Co. of liverwurst and other deli meats.[383] [Details of the plant and the size of the recall were not checked on the USDA recall notice for this book.]

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[380] FDA, "FDA Investigation of Cronobacter Infections: Powdered Infant Formula (February 2022)." https://www.fda.gov/food/outbreaks-foodborne-illness/fda-investigation-cronobacter-infections-powdered-infant-formula-february-2022. Accessed November 12, 2026.

[381] FDA, "FDA Evaluation of Infant Formula Response," led by Steven M. Solomon, September 2022. https://www.fda.gov/media/161689/download. Accessed November 12, 2026.

[382] FDA, "Human Foods Program," content current as of October 1, 2026. https://www.fda.gov/about-fda/fda-organization/human-foods-program. Accessed November 12, 2026.

[383] CDC, "Listeria Outbreak Linked to Meats Sliced at Delis," published August 14, 2024, updated January 31, 2025. https://www.cdc.gov/listeria/outbreaks/delimeats-7-24/index.html. Accessed November 12, 2026.

Because this was meat, the plant was under USDA's FSIS, the system with an inspector on site every day (Chapter 4). That raised hard questions about how a plant under daily inspection could still ship contaminated product.

2025 and 2026: Infant formula and botulism

In November 2025, infants began getting sick with botulism, a rare illness caused by a toxin that can paralyze muscles. The CDC traced it to ByHeart powdered infant formula. "On November 11, 2025, ByHeart recalled all infant formula products," covering all lots and sizes.[384]

The CDC's final count was 48 cases, all hospitalized, in 17 states, with no deaths. "The outbreak included 28 confirmed cases and 20 probable cases."[385] The CDC said: "This outbreak is over, but activities to determine the root cause of C. botulinum in ByHeart powdered infant formula continue."[386]

In June 2026, it happened again with a different brand. The CDC investigated four cases of infant botulism in California, Pennsylvania and Washington linked to "Nara Organics Whole Milk Organic Infant Formula." All four babies were hospitalized and treated, and none died. The CDC says "this outbreak is over."[387]

The lesson from both formula cases, three years apart, is the same: infant formula is one of the few foods some babies depend on completely, so a problem at one plant can be very serious.

What the outbreaks have in common

Selected U.S. foodborne outbreaks, 1993 to 2026, with official case counts as of November 12, 2026.

Years	Food	Germ	What it exposed	What followed
1992-	Hamburgers	E. coli	Undercooked beef;	Higher cooking temperature

[384] CDC, "Infant Botulism Outbreak Linked to Infant Formula, November 2025," updated March 5, 2026. https://www.cdc.gov/botulism/outbreaks-investigations/infant-formula-nov-2025/index.html. Accessed November 12, 2026.

[385] CDC, "Infant Botulism Outbreak Linked to Infant Formula, November 2025," updated March 5, 2026. https://www.cdc.gov/botulism/outbreaks-investigations/infant-formula-nov-2025/index.html. Accessed November 12, 2026.

[386] CDC, "Infant Botulism Outbreak Linked to Infant Formula, November 2025," updated March 5, 2026. https://www.cdc.gov/botulism/outbreaks-investigations/infant-formula-nov-2025/index.html. Accessed November 12, 2026.

[387] CDC, "Investigation Update on Infant Botulism Outbreak, June 2026," updated August 27, 2026. https://www.cdc.gov/botulism/outbreaks-investigations/infant-formula-june-2026/investigation.html. Accessed November 12, 2026.

Years	Food	Germ	What it exposed	What followed
1993	from a fast-food chain	O157:H7	germ invisible to inspectors	advice; FSIS treats the germ as an adulterant in ground beef (1994); PulseNet (1996)[388,389,390]
2006	Bagged spinach	E. coli O157:H7	Raw produce can carry deadly germs	Background to later produce rules[391]
2008-2009	Peanut paste and peanut butter	Salmonella	One supplier reached many products	Criminal prison sentences for executives[392,393]
2011	Cantaloupes	Listeria	Fresh produce, deadly germ	33 deaths among 147 cases[394]

[388] CDC, "Update: Multistate Outbreak of Escherichia coli O157:H7 Infections from Hamburgers -- Western United States, 1992-1993," Morbidity and Mortality Weekly Report 42, no. 14 (April 16, 1993). https://www.cdc.gov/mmwr/preview/mmwrhtml/00020219.htm. Accessed November 12, 2026.

[389] USDA FSIS, "Risk Assessment of E. coli O157:H7 in Ground Beef" (includes data through July 2001). https://www.fsis.usda.gov/node/2003. Accessed November 12, 2026.

[390] CDC, "About PulseNet," reviewed September 9, 2026. https://www.cdc.gov/pulsenet/about/index.html. Accessed November 12, 2026.

[391] CDC, "2006 E. coli Outbreak Linked to Fresh Spinach," posted October 6, 2006 (archived). https://archive.cdc.gov/www_cdc_gov/ecoli/2006/spinach-10-2006.html. Accessed November 12, 2026.

[392] CDC, "2008-2009 Salmonella Outbreak Linked to Peanut Butter," final update posted May 11, 2009 (archived). https://archive.cdc.gov/www_cdc_gov/salmonella/2009/peanut-butter-2008-2009.html. Accessed November 12, 2026.

[393] NPR, "Peanut Corp. Exec Gets 28 Years For Role In Deadly Salmonella Outbreak," The Two-Way, September 21, 2015. https://www.npr.org/sections/thetwo-way/2015/09/21/442273854/former-peanut-company-exec-could-get-life-sentence-in-deadly-salmonella-outbreak. Accessed November 12, 2026.

[394] CDC, "2011 Outbreak of Listeria Infections Linked to Whole Cantaloupes from Jensen Farms, Colorado," final update addendum August 27, 2012 (archived). https://archive.cdc.gov/www_cdc_gov/listeria/outbreaks/cantaloupes-jensen-farms/index.html. Accessed November 12, 2026.

Years	Food	Germ	What it exposed	What followed
2015	Ice cream	Listeria	Contamination in a plant	Record criminal penalty, $17.25 million[395]
2018	Romaine lettuce	E. coli O157:H7	Produce is hard to trace	Push for traceability records[396,397]
2022	Infant formula	Cronobacter	Weak complaint handling, outdated systems	FDA internal review; court consent decree[398,399]
2024	Deli meats	Listeria	A problem at a plant under daily inspection	10 deaths among 61 cases[400]
2025-2026	Infant formula	C. botulinum	Rare germ in formula	Full ByHeart recall; root cause still under study[401]

[395] U.S. Department of Justice, "Blue Bell Creameries Ordered To Pay $17.25 Million In Criminal Penalties In Connection With 2015 Listeria Contamination," press release 20-955, September 17, 2020. https://www.justice.gov/archives/opa/pr/blue-bell-creameries-ordered-pay-1725-million-criminal-penalties-connection-2015-listeria. Accessed November 12, 2026.

[396] CDC, "2018 E. coli Outbreak Linked to Romaine Lettuce," posted June 28, 2018 (archived). https://archive.cdc.gov/www_cdc_gov/ecoli/2018/o157h7-04-18/index.html. Accessed November 12, 2026.

[397] FDA, "FSMA Final Rule on Requirements for Additional Traceability Records for Certain Foods," content current as of November 4, 2026. https://www.fda.gov/food/food-safety-modernization-act-fsma/fsma-final-rule-requirements-additional-traceability-records-certain-foods. Accessed November 12, 2026.

[398] FDA, "FDA Evaluation of Infant Formula Response," led by Steven M. Solomon, September 2022. https://www.fda.gov/media/161689/download. Accessed November 12, 2026.

[399] FDA, "FDA Investigation of Cronobacter Infections: Powdered Infant Formula (February 2022)." https://www.fda.gov/food/outbreaks-foodborne-illness/fda-investigation-cronobacter-infections-powdered-infant-formula-february-2022. Accessed November 12, 2026.

[400] CDC, "Listeria Outbreak Linked to Meats Sliced at Delis," published August 14, 2024, updated January 31, 2025. https://www.cdc.gov/listeria/outbreaks/delimeats-7-24/index.html. Accessed November 12, 2026.

[401] CDC, "Infant Botulism Outbreak Linked to Infant Formula, November 2025," updated March 5, 2026. https://www.cdc.gov/botulism/outbreaks-investigations/infant-formula-nov-2025/index.html. Accessed November 12, 2026.

How recalls work

A recall is when a product is taken off the market because it may be unsafe or is labeled wrong. The FDA says recalls "may be initiated voluntarily by a company, or at the request of the FDA."[402] Between 2014 and 2024, "more than 83,000 FDA regulated products were recalled," according to the agency.[403]

The FDA sorts recalls into three classes by how dangerous the problem is:[404]

FDA recall classes, as defined by the FDA as of March 20, 2026.[405]

Class	What it means, in the FDA's words
Class I	"A reasonable probability that the use of or exposure to a violative product will cause serious adverse health consequences or death."
Class II	Use "may cause temporary or medically reversible adverse health consequences or where the probability of serious adverse health consequences is remote."
Class III	Use "is not likely to cause adverse health consequences."
Market withdrawal	Not a recall. It "occurs when a product has a minor violation that would not be subject to FDA legal action."

Mandatory recalls. Before 2011, the FDA could not order most food recalls on its own. The Food Safety Modernization Act gave it the "authority to issue a mandatory recall when a company fails to voluntarily recall unsafe food after being asked to by FDA."[406] The FDA uses that power rarely. In 2018, it ordered a recall of kratom products from Triangle Pharmanaturals of Las Vegas over Salmonella. The FDA said it was "the third time the FDA

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[402] FDA, "FDA 101: Product Recalls," content current as of May 13, 2025. https://www.fda.gov/consumers/consumer-updates/fda-101-product-recalls. Accessed November 12, 2026.

[403] FDA, "FDA 101: Product Recalls," content current as of May 13, 2025. https://www.fda.gov/consumers/consumer-updates/fda-101-product-recalls. Accessed November 12, 2026.

[404] FDA, "Recalls Background and Definitions," content current as of March 20, 2026. https://www.fda.gov/safety/industry-guidance-recalls/recalls-background-and-definitions. Accessed November 12, 2026.

[405] FDA, "Recalls Background and Definitions," content current as of March 20, 2026. https://www.fda.gov/safety/industry-guidance-recalls/recalls-background-and-definitions. Accessed November 12, 2026.

[406] FDA, "Background on the FDA Food Safety Modernization Act (FSMA)," content current as of January 30, 2018. https://www.fda.gov/food/food-safety-modernization-act-fsma/background-fda-food-safety-modernization-act-fsma. Accessed November 12, 2026.

has invoked its mandatory recall authority, but the first time the agency ordered a mandatory recall because a company has opted not to voluntarily recall" after being asked.[407]

Meat and poultry. USDA's FSIS runs recalls for the products it inspects. [I did not read FSIS's own recall procedures for this book; the FSIS recall page could not be loaded.]

Where to check. Recalls.gov brings together recalls from six federal agencies.[408] Appendix B walks through how to check a product you bought.

What you can do

Most food poisoning is never traced to an outbreak. It happens one meal at a time, often at home. The CDC's advice comes down to "the four steps to food safety: Clean, Separate, Cook, and Chill."[409]

- **Clean.** Wash hands, cutting boards and counters.
- **Separate.** Keep raw meat, poultry, seafood and eggs away from foods that will not be cooked.
- **Cook.** Use a food thermometer. USDA says whole cuts of beef, pork, lamb and veal are safe at "a minimum internal temperature of 145F," ground meats at 160 F, and poultry at 165 F, and it advises letting meat "rest for at least three minutes before carving or consuming."[410]
- **Chill.** "Keep your refrigerator at 40 degrees F or below and your freezer at 0 degrees F or below." And "never leave perishable food out for more than 2 hours (or 1 hour if exposed to temperatures above 90 degrees F)."[411]

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[407] FDA, "FDA Orders Mandatory Recall for Kratom Products Due to Risk of Salmonella," April 16, 2018. https://www.fda.gov/safety/recalls-market-withdrawals-safety-alerts/fda-orders-mandatory-recall-kratom-products-due-risk-salmonella. Accessed November 12, 2026.

[408] FDA, "FDA 101: Product Recalls," content current as of May 13, 2025. https://www.fda.gov/consumers/consumer-updates/fda-101-product-recalls. Accessed November 12, 2026.

[409] CDC, "Preventing Food Poisoning," last updated November 24, 2025. https://www.cdc.gov/food-safety/prevention/index.html. Accessed November 12, 2026.

[410] USDA Food Safety and Inspection Service, "Washing Food: Does it Promote Food Safety?" (undated web page). https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/washing-food-does-it-promote-food. Accessed November 12, 2026.

[411] CDC, "Preventing Food Poisoning," last updated November 24, 2025. https://www.cdc.gov/food-safety/prevention/index.html. Accessed November 12, 2026.

Leftovers. USDA says leftovers "must be refrigerated" within 2 hours of cooking, and suggests dividing "large amounts of food into shallow containers" so they cool fast. "Leftovers can be kept in the refrigerator for 3 to 4 days or frozen for 3 to 4 months." When you reheat them, "be sure they reach 165 degrees F as measured with a food thermometer."[412]

Sick cooks. Norovirus, the top cause of foodborne illness, spreads through "eating food handled by" someone who has it. The CDC warns that "you can still spread norovirus for 2 weeks or more after you feel better."[413] If you have been sick with vomiting or diarrhea, let someone else cook. [The advice to let someone else cook is my own practical suggestion based on the CDC's warning.]

One more: you do not need to wash raw chicken. The CDC says: "Raw chicken is ready to cook. It doesn't need to be washed first."[414] Chapter 17 explains why.

Part Six: Twenty Claims, Tested

The verdicts in this part reflect sources available as of November 12, 2026. New studies or rules after that date could change a verdict.

Chapter 17: What's True, What's Not

This chapter takes twenty things people say about food and tests each one against the records. I picked claims that show up often, from every direction. Some come from people who distrust big food companies. Some come from people who distrust the government. A few come from the industry or the government itself.

Each claim gets one of four verdicts: True, Partly true, False (debunked) or Inconclusive. The Introduction explains what each one means. I use the same test for every claim: what do the primary records show, and what do they leave open?

A few ground rules for reading this chapter:

- A verdict is about the claim as people usually say it, not about the best or worst version of it.

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[412] USDA FSIS, "Leftovers and Food Safety," last updated July 31, 2020. https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/leftovers-and-food-safety. Accessed November 12, 2026.

[413] CDC, "About Norovirus," April 24, 2024. https://www.cdc.gov/norovirus/about/index.html. Accessed November 12, 2026.

[414] CDC, "Chicken and Food Poisoning," last updated April 29, 2024. https://www.cdc.gov/food-safety/foods/chicken.html. Accessed November 12, 2026.

- "Partly true" is not a polite way of saying "false." It means there is a real fact underneath, and I tell you exactly which part holds up.
- "Inconclusive" is not a dodge. It means the evidence does not settle the question yet, and I tell you what would.
- Nothing here is medical advice. If you have an allergy or a health condition, follow your doctor.

Here is the scorecard first. The details follow.

Verdicts on twenty food claims, as of November 12, 2026.

#	Claim	Verdict
1	Genetically modified foods cause cancer	False (debunked)
2	Organic food is more nutritious	Partly true
3	Many U.S. ingredients are banned in Europe	Partly true
4	Food dyes cause hyperactivity in children	Partly true
5	Seed oils are toxic	Inconclusive
6	Food past its expiration date is unsafe	False (debunked)
7	"Natural" on a label has a legal meaning	Partly true
8	The FDA tests every food before it is sold	False (debunked)
9	Synthetic food dyes are now banned in the U.S.	Partly true
10	Companies can decide on their own that an ingredient is safe	True
11	American chicken is washed in chlorine, so Europe bans it	Partly true
12	Aspartame causes cancer	Inconclusive
13	MSG is dangerous	False (debunked)
14	Glyphosate residues on food cause cancer	Inconclusive
15	Raw milk is safer and healthier than pasteurized milk	False (debunked)
16	Insects are being secretly added to your food	False (debunked)
17	Lab-grown meat is sold without any label	False (debunked)
18	The Jungle was written to expose unsafe food	Partly true
19	The 2025 staff cuts stopped FDA food inspections	False (debunked)
20	Washing raw chicken makes it safer	False (debunked)

Claim 1: "Genetically modified foods cause cancer."

Verdict: False (debunked).

What the evidence shows. In 2016, the National Academies of Sciences, Engineering, and Medicine, the country's top independent science body, released a long review of genetically engineered crops. It found "no substantiated evidence of a difference in risks to human health between current commercially available genetically engineered (GE) crops and conventionally bred crops." It also found that "available epidemiological data do not show

associations between any disease or chronic conditions and the consumption of GE foods."[415]

The best-known study claiming a cancer link was a 2012 rat study led by French researcher Gilles-Eric Seralini. The journal that published it retracted it in 2013. According to Scientific American, which reprinted a Nature news report on November 28, 2013, the publisher found "no evidence of fraud or intentional misrepresentation of the data," but said "no definitive conclusions can be reached." The small number of animals and the high natural tumor rate in that strain of rat could not be ruled out as the cause. The authors objected to the retraction.[416]

What is still fair to say. The same National Academies report noted the "inherent difficulty of detecting subtle or long-term effects on health or the environment."[417] That is a limit of science in general, not evidence of harm. The report also found that "some weeds had evolved resistance to glyphosate," the weed killer used with many engineered crops.[418] Whether glyphosate itself causes cancer is a separate question, covered in Claim 14.

Why the verdict. The claim as usually stated, that eating GMO food causes cancer, is contradicted by the largest independent review on the subject. People can still have good reasons to prefer non-GMO food, such as how crops are farmed or who owns the seeds. Those are real debates, but they are not about cancer.

Claim 2: "Organic food is more nutritious."

Verdict: Partly true.

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[415] National Academies of Sciences, Engineering, and Medicine, "Genetically Engineered Crops: Experiences and Prospects - New Report," news release, May 17, 2016. https://www.nationalacademies.org/news/2016/05/genetically-engineered-crops-experiences-and-prospects-new-report. Accessed November 12, 2026.

[416] Scientific American (reproduced from Nature), "Study Linking Genetically Modified Corn to Rat Tumors Is Retracted," November 28, 2013. https://www.scientificamerican.com/article/study-linking-genetically-modified-corn-to-cancer/. Accessed November 12, 2026.

[417] National Academies of Sciences, Engineering, and Medicine, "Genetically Engineered Crops: Experiences and Prospects - New Report," news release, May 17, 2016. https://www.nationalacademies.org/news/2016/05/genetically-engineered-crops-experiences-and-prospects-new-report. Accessed November 12, 2026.

[418] National Academies of Sciences, Engineering, and Medicine, "Genetically Engineered Crops: Experiences and Prospects - New Report," news release, May 17, 2016. https://www.nationalacademies.org/news/2016/05/genetically-engineered-crops-experiences-and-prospects-new-report. Accessed November 12, 2026.

What the evidence shows. The best-known review is a 2012 study from Stanford University researchers led by Crystal Smith-Spangler, published in the Annals of Internal Medicine. It concluded: "The published literature lacks strong evidence that organic foods are significantly more nutritious than conventional foods." It added that eating organic food "may reduce exposure to pesticide residues and antibiotic-resistant bacteria."[419]

A 2014 review in the British Journal of Nutrition, led by Marcin Baranski, reported "higher antioxidant and lower cadmium concentrations and lower incidence of pesticide residues in organically grown crops," according to its title.[420] I read the title and summary information but not the full paper, so I do not report its specific numbers.

What the USDA says. The USDA organic label is a rule about how food is grown and handled. It is not a nutrition claim. The rules set how much of a product must be organic for each label: 100 percent, 95 percent, or at least 70 percent for "made with organic."[421] [I tried to read a USDA page stating whether the agency makes any nutrition or safety claim for organic food, but the page would not load. I did not find such a claim on the USDA pages I did read.]

Why the verdict. The true part: organic produce tends to carry fewer pesticide residues, and some studies find more of certain plant compounds. The part that goes too far: the strong claim that organic food is clearly more nutritious is not supported by the large review. Keep in mind that most conventional produce is also below the legal pesticide limits (Chapter 13).[422]

Claim 3: "Many ingredients used in the U.S. are banned in Europe."

Verdict: Partly true.

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[419] Crystal Smith-Spangler and others, "Are Organic Foods Safer or Healthier Than Conventional Alternatives? A Systematic Review," Annals of Internal Medicine 157, no. 5 (September 4, 2012). https://www.acpjournals.org/doi/10.7326/0003-4819-157-5-201209040-00007. Accessed November 12, 2026.

[420] Baranski, Marcin, et al. "Higher Antioxidant and Lower Cadmium Concentrations and Lower Incidence of Pesticide Residues in Organically Grown Crops: A Systematic Literature Review and Meta-Analyses." British Journal of Nutrition 112, no. 5 (2014). https://doi.org/10.1017/S0007114514001366. Accessed November 12, 2026.

[421] USDA Agricultural Marketing Service (AMS), "Labeling Requirements for the U.S. Organic Market," last updated June 2026. https://www.ams.usda.gov/services/organic-certification/international-trade/labeling-requirements-US-organic-market. Accessed November 12, 2026.

[422] USDA AMS, "Pesticide Data Program Annual Summary, Calendar Year 2024," December 2025. https://www.ams.usda.gov/sites/default/files/media/PDPAnnualSummary.pdf. Accessed November 12, 2026.

What the evidence shows. Some ingredients are allowed in the U.S. and not in the European Union (EU), and the reverse also happens. The clearest recent example is titanium dioxide, a white coloring. The EU stopped allowing it as a food additive under Commission Regulation (EU) 2022/63, adopted January 14, 2022.[423] In the U.S., a petition asking the FDA to remove titanium dioxide was filed on April 14, 2023, and was still listed under FDA review as of the FDA's most recent update.[424]

Brominated vegetable oil (BVO) is another example people used to cite. The FDA revoked its approval in a final rule effective July 3, 2024, so that one has now been settled the same way in both places.[425]

Where the claim goes too far. The most common version says Europe bans the synthetic dyes Americans eat, such as Red 40 and Yellow 5. That is not accurate. The EU allows most of them, but requires a warning label (Chapter 11). Under EU Regulation 1333/2008, foods with any of six colors must carry the words "may have an adverse effect on activity and attention in children." The six are Sunset Yellow (E 110, called Yellow 6 in the U.S.), Quinoline Yellow (E 104), Carmoisine (E 122), Allura Red (E 129, Red 40 in the U.S.), Tartrazine (E 102, Yellow 5 in the U.S.) and Ponceau 4R (E 124).[426] [The U.S. names for the E numbers are standard equivalents that I did not check on an official page for this book.] Lists of "banned in Europe" ingredients online often mix together things that are banned, things that need a warning, and things that were never submitted for approval in Europe.

Why the verdict. Real differences exist, and titanium dioxide is a clear one. But the claim usually overstates how many ingredients are banned and gets the dye story wrong.

Claim 4: "Food dyes cause hyperactivity in children."

Verdict: Partly true.

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[423] European Commission. Commission Regulation (EU) 2022/63 of 14 January 2022 (titanium dioxide, E 171). https://eur-lex.europa.eu/eli/reg/2022/63/oj. Accessed November 12, 2026.

[424] FDA, "List of Select Chemicals in the Food Supply Under FDA Review," table as of May 12, 2026, page modified October 29, 2026. https://www.fda.gov/food/food-chemical-safety/list-select-chemicals-food-supply-under-fda-review. Accessed November 12, 2026.

[425] FDA, "List of Select Chemicals in the Food Supply Under FDA Review," table as of May 12, 2026, page modified October 29, 2026. https://www.fda.gov/food/food-chemical-safety/list-select-chemicals-food-supply-under-fda-review. Accessed November 12, 2026.

[426] Regulation (EC) No 1333/2008 on food additives, Annex V (colours requiring additional labeling information), via legislation.gov.uk. https://legislation.gov.uk/eur/2008/1333/annex/V/data.pdf. Accessed November 12, 2026.

What the evidence shows. The study most often cited is a 2007 trial at the University of Southampton, published in The Lancet and led by Donna McCann. It was randomized, double-blinded and placebo-controlled, which is the strongest kind of design for this question. About 300 children, aged 3 and 8 to 9, drank mixtures of artificial colors plus the preservative sodium benzoate, or a placebo. The authors concluded: "Artificial colours or a sodium benzoate preservative (or both) in the diet result in increased hyperactivity in 3-year-old and 8/9-year-old children in the general population."[427]

Look closer, though. For the 3-year-olds, one of the two mixtures showed an effect and the other did not.[428] The effects were small. And because each mixture combined several dyes with a preservative, the study cannot say which single dye caused what.

In 2021, California's Office of Environmental Health Hazard Assessment (OEHHA) reviewed the research and concluded that "synthetic food dyes are associated with adverse neurobehavioral outcomes in children." It also said the FDA's acceptable daily intake levels, set between 1969 and 1987, may not protect children enough.[429]

The FDA's long-standing position, quoted in that same review, was that "most children have no adverse effects" from dyes, but "some evidence suggests that certain children may be sensitive."[430]

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[427] Donna McCann and others, "Food additives and hyperactive behaviour in 3-year-old and 8/9-year-old children in the community: a randomised, double-blinded, placebo-controlled trial," The Lancet 370, no. 9598 (2007): 1560-1567 (abstract via University of Southampton repository). https://eprints.soton.ac.uk/145999. Accessed November 12, 2026.

[428] Donna McCann and others, "Food additives and hyperactive behaviour in 3-year-old and 8/9-year-old children in the community: a randomised, double-blinded, placebo-controlled trial," The Lancet 370, no. 9598 (2007): 1560-1567 (abstract via University of Southampton repository). https://eprints.soton.ac.uk/145999. Accessed November 12, 2026.

[429] California Office of Environmental Health Hazard Assessment (OEHHA), "Health Effects Assessment: Potential Neurobehavioral Effects of Synthetic Food Dyes in Children," April 2021. https://www.oehha.ca.gov/risk-assessment/report/health-effects-assessment-potential-neurobehavioral-effects-synthetic-food-dyes-children. Accessed November 12, 2026.

[430] California Office of Environmental Health Hazard Assessment (OEHHA), "Health Effects Assessment: Potential Neurobehavioral Effects of Synthetic Food Dyes in Children," April 2021. https://www.oehha.ca.gov/risk-assessment/report/health-effects-assessment-potential-neurobehavioral-effects-synthetic-food-dyes-children. Accessed November 12, 2026.

Why the verdict. The true part: good studies show some children's behavior changes with some dye mixtures. The part that goes too far: the evidence does not show that dyes cause ADHD, or that every child is affected. The effect appears small and varies from child to child.

Claim 5: "Seed oils are toxic."

Verdict: Inconclusive.

What the claim means. "Seed oils" usually means canola, soybean, corn, sunflower, cottonseed and similar oils. Some public figures, including some in the 2025 administration, have argued that these oils drive inflammation and chronic disease.

What the evidence shows. Health Secretary Robert F. Kennedy Jr. "has claimed that seed oils are poisoning Americans," according to the Center for Science in the Public Interest (CSPI), a nutrition advocacy group.[431] CSPI takes the opposite view. Its July 2025 review, by nutrition scientist Caitlin Dow, concludes that "the research makes it crystal clear that seed oils are healthy, not harmful." It quotes nutrition researcher Alice H. Lichtenstein saying the idea that the ratio of omega-6 to omega-3 fats drives inflammation "sounds credible. But it's not evidence-based." CSPI also cites an American Heart Association advisory finding that "rates of heart disease are nearly 30 percent lower when you replace animal fats with plant oils."[432]

Keep in mind that CSPI is an advocacy group, a Tier 5 source. I report its view because it summarizes the research and names its experts, not because it is neutral. [I tried to read an NPR report on the debate, but the site refused automated access.]

What the 2025-2030 Dietary Guidelines say. The new federal guidelines, released January 7, 2026, keep a limit of 10 percent of calories from saturated fat, the kind found in butter and beef fat.[433] The Harvard T.H. Chan School of Public Health's Nutrition Source, in a January 2026 review, pointed to what it called a contradiction between that limit and the guidelines' friendlier language toward full-fat dairy and animal fats.[434]

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[431] Caitlin Dow, "Seed oils: Are they healthy or harmful?" Center for Science in the Public Interest (CSPI), updated July 25, 2025. https://www.cspi.org/article/seed-oils-are-they-healthy-or-harmful. Accessed November 12, 2026.

[432] Caitlin Dow, "Seed oils: Are they healthy or harmful?" Center for Science in the Public Interest (CSPI), updated July 25, 2025. https://www.cspi.org/article/seed-oils-are-they-healthy-or-harmful. Accessed November 12, 2026.

[433] HHS, "Fact Sheet: Trump Administration Resets U.S. Nutrition Policy, Puts Real Food Back at the Center of Health," January 7, 2026. https://www.hhs.gov/press-room/fact-sheet-historic-reset-federal-nutrition-policy.html. Accessed November 12, 2026.

[434] Brett O. Otis, "Dietary Guidelines for Americans 2025-2030: Progress on added sugar, protein hype, saturated fat contradictions," The Nutrition Source, Harvard T.H. Chan School

Why the verdict. "Toxic" means poisonous at normal amounts. No major health agency I checked says seed oils are toxic at the amounts people eat. At the same time, the question of how much of these oils is healthy, compared with other fats, is still actively debated, and a lot of seed oil is eaten in fried and ultra-processed foods, which muddies the picture. A long-term trial comparing diets that differ only in the type of oil would help settle it.

Claim 6: "Food past its expiration date is unsafe."

Verdict: False (debunked).

What the evidence shows. USDA's Food Safety and Inspection Service says it plainly: "Except for infant formula, product dating is not required by Federal regulations." A "Best if Used By" date tells you when the food will have the best flavor or quality. It "is not a purchase or safety date." A "Use-By" date is "not a safety date except for when used on infant formula."[435]

USDA also estimates that "30 percent of the food supply is lost or wasted at the retail and consumer levels," and confusing date labels are part of the reason.[436]

What still matters. A food can go bad before its date if it was stored badly, and a food can be safe after the date if it was handled well. The date is not a guarantee either way. Infant formula is the exception: its use-by date is about safety and nutrition, and you should follow it.[437]

Why the verdict. For almost every food, the date is about quality, not safety, and it is not required by federal law.

Claim 7: "'Natural' on a label has a legal meaning."

Verdict: Partly true.

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of Public Health, January 9, 2026. https://nutritionsource.hsph.harvard.edu/2026/01/09/dietary-guidelines-for-americans-2025-2030/. Accessed November 12, 2026.

[435] USDA FSIS, "Food Product Dating" (no date shown on page). https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/food-product-dating. Accessed November 12, 2026.

[436] USDA FSIS, "Food Product Dating" (no date shown on page). https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/food-product-dating. Accessed November 12, 2026.

[437] USDA FSIS, "Food Product Dating" (no date shown on page). https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/food-product-dating. Accessed November 12, 2026.

What the evidence shows. For foods the FDA oversees, the agency says it "has not engaged in rulemaking to establish a formal definition for the term 'natural.'" What it has is a long-standing policy: the term means "nothing artificial or synthetic (including all color additives regardless of source) has been included in, or has been added to, a food that would not normally be expected to be in that food."[438]

That policy says nothing about how the food was grown. The FDA says it was "not intended to address food production methods, such as the use of pesticides," or processing methods.[439] The FDA asked for public comments on defining "natural," and that comment period closed May 10, 2016.[440] As of November 12, 2026, I found no final definition.

For meat and poultry, USDA's FSIS has its own approach. FSIS defines "natural" on meat and poultry as "a product containing no artificial ingredient or added color and is only minimally processed," and says "the label must include a statement explaining the meaning of the term natural."[441] So "natural" has a firmer meaning on a pack of chicken than on a box of crackers.

Why the verdict. The true part: there are agency policies, and a company that badly misuses the word can face action. The part that goes too far: there is no formal FDA rule defining "natural," and the word does not mean organic, non-GMO or pesticide-free.

Claim 8: "The FDA tests every food before it is sold."

Verdict: False (debunked).

What the evidence shows. The FDA says: "Food manufacturers are responsible for marketing safe foods."[442] The agency does not approve most foods before they go on sale. In its own words: "Although the FDA does not approve food products, certain ingredients

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[438] FDA, "Use of the Term Natural on Food Labeling," content current as of October 22, 2018. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/use-term-natural-food-labeling. Accessed November 12, 2026.

[439] FDA, "Use of the Term Natural on Food Labeling," content current as of October 22, 2018. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/use-term-natural-food-labeling. Accessed November 12, 2026.

[440] FDA, "Use of the Term Natural on Food Labeling," content current as of October 22, 2018. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/use-term-natural-food-labeling. Accessed November 12, 2026.

[441] USDA FSIS, "Meat and Poultry Labeling Terms," last updated July 2, 2024. https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/meat-and-poultry-labeling-terms. Accessed November 12, 2026.

[442] FDA, "Food Ingredients and Packaging," content current as of July 6, 2023. https://www.fda.gov/food/food-ingredients-packaging. Accessed November 12, 2026.

must be approved by the FDA before they are used in food." Those are food additives and color additives, unless an exception such as GRAS applies.[443]

The FDA inspects food plants, but not every year. The 2011 Food Safety Modernization Act set a goal of inspecting high-risk domestic plants at least once every three years.[444] GAO found that the FDA averaged 8,353 domestic food inspections a year from fiscal 2018 to 2023, against about 75,000 domestic food facilities it oversees.[445,446] For imports, the agency averaged 917 foreign inspections a year, against a legal target of 19,200.[447]

Meat and poultry are different. USDA inspectors must examine every animal at slaughter, and processing plants are inspected every day they operate.[448]

Why the verdict. The FDA does not test every food, and it does not approve most foods before sale. Companies are responsible for safety, and the FDA checks some of them some of the time. This is the single biggest misunderstanding I found while writing this book.

Claim 9: "Synthetic food dyes are now banned in the U.S."

Verdict: Partly true.

What the evidence shows. Two dyes have been removed:

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[443] FDA, "Is It Really 'FDA Approved'?" content current as of May 4, 2026. https://www.fda.gov/consumers/consumer-updates/it-really-fda-approved. Accessed November 12, 2026.

[444] FDA, "Background on the FDA Food Safety Modernization Act (FSMA)," content current as of January 30, 2018. https://www.fda.gov/food/food-safety-modernization-act-fsma/background-fda-food-safety-modernization-act-fsma. Accessed November 12, 2026.

[445] GAO, "Food Safety: FDA Should Strengthen Inspection Efforts to Protect the U.S. Food Supply," GAO-25-107571, January 8, 2025. https://www.gao.gov/products/gao-25-107571. Accessed November 12, 2026.

[446] U.S. Government Accountability Office (GAO), "Food Safety: Status of Foodborne Illness in the U.S.," GAO-25-107606, February 3, 2025. https://www.gao.gov/assets/gao-25-107606.pdf. Accessed November 12, 2026.

[447] GAO, "Food Safety: FDA Should Strengthen Inspection Efforts to Protect the U.S. Food Supply," GAO-25-107571, January 8, 2025. https://www.gao.gov/products/gao-25-107571. Accessed November 12, 2026.

[448] Congressional Research Service (CRS), "The Federal Food Safety System: A Primer," RS22600, December 16, 2016 (copy hosted by EveryCRSReport.com). https://www.everycrsreport.com/files/20161216_RS22600_910156eb73ec572f200962acf53119bdfacf28ba.pdf. Accessed November 12, 2026.

- **Red No. 3.** The FDA revoked its approval for food on January 16, 2025, under the Delaney Clause, a 1958 rule that bars approving an additive found to cause cancer in people or animals. Food makers have until January 15, 2027, to remove it. The FDA also said there is "no evidence showing FD&C Red No. 3 causes cancer in humans"; the action was based on studies in male rats and the strict wording of the law.[449]
- **Orange B.** The FDA issued a final order revoking it in July 2026, effective September 8, 2026.[450]

The FDA also proposed revoking Citrus Red No. 2, used to color some orange peels.[451]

The other six widely used dyes, Red 40, Yellow 5, Yellow 6, Blue 1, Blue 2 and Green 3, are still legal. In April 2025, HHS and the FDA announced a plan to eliminate them "by the end of next year," meaning the end of 2026, mainly by asking companies to stop using them voluntarily.[452] The FDA's own tracker of company pledges, updated in October 2026, uses "the end of 2027" as the target.[453] Several large companies have pledged to remove them. Some states have passed their own limits (Chapter 11).

Why the verdict. The true part: two dyes are banned, a third is proposed, and the government is pushing hard to end the rest. The part that goes too far: as of November 12, 2026, the six most common synthetic dyes are still legal in U.S. food.

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[449] FDA, "FD&C Red No. 3," content current as of October 5, 2026. https://www.fda.gov/industry/color-additives/fdc-red-no-3. Accessed November 12, 2026.

[450] FDA, "FDA Proposes Revocation of Authorization for Orange B in Food," constituent update, September 17, 2025, updated July 22, 2026. https://www.fda.gov/food/hfp-constituent-updates/fda-proposes-revocation-authorization-orange-b-food. Accessed November 12, 2026.

[451] FDA, "FDA Proposes Revocation of Authorization for Orange B in Food," constituent update, September 17, 2025, updated July 22, 2026. https://www.fda.gov/food/hfp-constituent-updates/fda-proposes-revocation-authorization-orange-b-food. Accessed November 12, 2026.

[452] FDA, "HHS, FDA to Phase Out Petroleum-Based Synthetic Dyes in Nation's Food Supply," press release, April 22, 2025. https://www.fda.gov/news-events/press-announcements/hhs-fda-phase-out-petroleum-based-synthetic-dyes-nations-food-supply. Accessed November 12, 2026.

[453] FDA, "Tracking Food Industry Pledges to Remove Petroleum Based Food Dyes," content current as of October 16, 2026. https://www.fda.gov/food/color-additives-information-consumers/tracking-food-industry-pledges-remove-petroleum-based-food-dyes. Accessed November 12, 2026.

Claim 10: "Companies can decide on their own that an ingredient is safe."

Verdict: True.

What the evidence shows. Under a 1958 law, an ingredient that is "generally recognized as safe" (GRAS) by qualified experts does not need FDA approval before it is used. The FDA says GRAS substances "do not require pre-market review by the FDA," and that telling the FDA about a GRAS decision is "not mandatory; however, the FDA strongly encourages" it.[454] In the FDA's words from its description of the program, "a determination that an ingredient is GRAS can be made by qualified experts outside of government."[455]

So a company can hire its own experts, decide an ingredient is GRAS, and start using it without telling the FDA.

What is changing. On August 10, 2026, the FDA proposed a rule to require companies to notify the agency before using a new GRAS ingredient.[456] Public comments are due December 9, 2026.[457] According to Food Safety Magazine, the proposal "would not establish a premarket review and approval process."[458] In 2016 the FDA had said it lacked clear legal authority to require GRAS notices, a point law firms have raised about the new proposal.[459] As of November 12, 2026, it is still a proposal.

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[454] FDA, "Understanding How the FDA Regulates Food Additives and GRAS Ingredients," content current as of June 6, 2024. https://www.fda.gov/food/food-additives-and-gras-ingredients-information-consumers/understanding-how-fda-regulates-food-additives-and-gras-ingredients. Accessed November 12, 2026.

[455] Paulette M. Gaynor, "How U.S. FDA's GRAS Notification Program Works," reprinted by FDA from Food Safety Magazine (December 2005/January 2006), content current as of February 9, 2018. https://www.fda.gov/food/generally-recognized-safe-gras/how-us-fdas-gras-notification-program-works. Accessed November 12, 2026.

[456] FDA, "Generally Recognized as Safe (GRAS)," content current as of August 10, 2026. https://www.fda.gov/food/food-ingredients-packaging/generally-recognized-safe-gras. Accessed November 12, 2026.

[457] Bailee Henderson, "FDA Proposes Mandatory GRAS Notifications for Ingredients Introduced to U.S. Food Supply," Food Safety Magazine, August 10, 2026. https://www.food-safety.com/articles/11713-fda-proposes-mandatory-gras-notifications-for-ingredients-introduced-to-us-food-supply. Accessed November 12, 2026.

[458] Bailee Henderson, "FDA Proposes Mandatory GRAS Notifications for Ingredients Introduced to U.S. Food Supply," Food Safety Magazine, August 10, 2026. https://www.food-safety.com/articles/11713-fda-proposes-mandatory-gras-notifications-for-ingredients-introduced-to-us-food-supply. Accessed November 12, 2026.

[459] Todd A. Harrison, "New Details Emerge on FDA's GRAS Rulemaking," Venable LLP, July 16, 2026 (law firm analysis).

Why the verdict. This one is true as stated, today. Supporters of the current system point out that the GRAS standard still requires real expert agreement, and that the FDA can act against an ingredient it finds unsafe. Critics call it a loophole. Chapter 10 covers both sides.

Claim 11: "American chicken is washed in chlorine, and that's why Europe bans it."

Verdict: Partly true.

What the evidence shows. The Congressional Research Service (CRS) explains that "this dispute dates back to 1997, when the EU first banned the use of PRTs on poultry." PRTs, or pathogen reduction treatments, "are antimicrobial rinses, including chlorine dioxide, acidified sodium chlorite, trisodium phosphate, and peroxyacids, among others."[460] The EU's view, in CRS's summary, is that "stronger sanitary practices during production and processing are more appropriate for pathogen control." The United States asked the World Trade Organization for consultations on January 16, 2009. A panel was set up in November 2009, "but this case has not moved forward."[461] [The CRS report I read was last updated January 5, 2017. I did not find a newer CRS update.]

USDA's FSIS keeps a list of substances approved for use in poultry processing water. The current version of that directive, dated August 7, 2024, lists several antimicrobial washes, such as peroxyacetic acid. I did not find chlorine named in the text I read.[462]

Why the verdict. The true part: since 1997 the EU has banned poultry treated with chemical rinses, and chlorine-based rinses are among them.[463] The part that goes too far: chlorine is only one of several approved rinses, and the EU's stated reason is that it prefers

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https://www.venable.com/insights/publications/2026/07/new-details-emerge-on-fdas-gras-rulemaking. Accessed November 12, 2026.

[460] Renee Johnson, "U.S.-EU Poultry Dispute on the Use of Pathogen Reduction Treatments (PRTs)," Congressional Research Service report R40199, updated January 5, 2017. https://www.everycrsreport.com/reports/R40199.html. Accessed November 12, 2026.

[461] Renee Johnson, "U.S.-EU Poultry Dispute on the Use of Pathogen Reduction Treatments (PRTs)," Congressional Research Service report R40199, updated January 5, 2017. https://www.everycrsreport.com/reports/R40199.html. Accessed November 12, 2026.

[462] USDA Food Safety and Inspection Service. "FSIS Directive 7120.1, Revision 59: Safe and Suitable Ingredients Used in the Production of Meat, Poultry, and Egg Products." August 7, 2024. https://www.fsis.usda.gov/policy/fsis-directives/7120.1. Accessed November 12, 2026.

[463] Renee Johnson, "U.S.-EU Poultry Dispute on the Use of Pathogen Reduction Treatments (PRTs)," Congressional Research Service report R40199, updated January 5, 2017. https://www.everycrsreport.com/reports/R40199.html. Accessed November 12, 2026.

stronger hygiene during production rather than a chemical rinse at the end.[464] The claim also implies the rinse makes chicken unsafe, which the EU's position does not say.

Claim 12: "Aspartame causes cancer."

Verdict: Inconclusive.

What the evidence shows. In July 2023, two World Health Organization (WHO) bodies reported on aspartame on the same day. The International Agency for Research on Cancer (IARC) "classified aspartame as possibly carcinogenic to humans (IARC Group 2B)" based on "limited evidence for cancer in humans," specifically a type of liver cancer. The other body, the Joint FAO/WHO Expert Committee on Food Additives (JECFA), "reaffirmed the acceptable daily intake of 40 mg/kg body weight." By its example, a 70-kilogram adult "would need to consume more than 9-14 cans per day to exceed the acceptable daily intake," assuming a typical amount of aspartame per can.[465]

The two bodies did different jobs. IARC judges hazard, whether something can cause cancer at all. Its classifications "do not reflect the risk of developing cancer at a given exposure level." JECFA judges risk at real intake levels.[466]

The FDA "disagrees with IARC's conclusion that these studies support classifying aspartame as a possible carcinogen." It says JECFA "did not raise safety concerns for aspartame under the current levels of use."[467] The FDA's own acceptable daily intake is 50 milligrams per kilogram of body weight, higher than JECFA's 40.[468]

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[464] Renee Johnson, "U.S.-EU Poultry Dispute on the Use of Pathogen Reduction Treatments (PRTs)," Congressional Research Service report R40199, updated January 5, 2017. https://www.everycrsreport.com/reports/R40199.html. Accessed November 12, 2026.

[465] International Agency for Research on Cancer (IARC) and Joint FAO/WHO Expert Committee on Food Additives (JECFA), "Aspartame hazard and risk assessment results released," joint press release, July 14, 2023. https://www.iarc.who.int/wp-content/uploads/2023/07/Aspartame_PR.pdf. Accessed November 12, 2026.

[466] International Agency for Research on Cancer (IARC) and Joint FAO/WHO Expert Committee on Food Additives (JECFA), "Aspartame hazard and risk assessment results released," joint press release, July 14, 2023. https://www.iarc.who.int/wp-content/uploads/2023/07/Aspartame_PR.pdf. Accessed November 12, 2026.

[467] FDA, "Aspartame and Other Sweeteners in Food," content current as of February 27, 2025. https://www.fda.gov/food/food-additives-petitions/aspartame-and-other-sweeteners-food. Accessed November 12, 2026.

[468] FDA, "Aspartame and Other Sweeteners in Food," content current as of February 27, 2025. https://www.fda.gov/food/food-additives-petitions/aspartame-and-other-sweeteners-food. Accessed November 12, 2026.

Why the verdict. One respected body found "limited evidence" of a possible link, and others that set intake limits did not change their safe levels. Limited evidence is not the same as proof. Larger long-term studies of people who drink diet drinks, with careful control for other habits, would help settle it.

Claim 13: "MSG is dangerous."

Verdict: False (debunked).

What the evidence shows. MSG, or monosodium glutamate, is a flavor enhancer. The FDA "considers the addition of MSG to foods to be 'generally recognized as safe' (GRAS)." The agency says it "has received reports of symptoms such as headache and nausea" after people ate foods with MSG, but "we were never able to confirm that the MSG caused the reported effects."[469]

The FDA notes that symptoms have been reported in some sensitive people who "consume 3 grams or more of MSG without food." It adds that "consuming more than 3 grams of MSG without food at one time is unlikely." When MSG is added, the FDA "requires that foods containing added MSG list it in the ingredient panel."[470]

Why the verdict. The FDA considers MSG safe, and studies have not been able to reliably reproduce the symptoms people report. A small number of people may react to large amounts on an empty stomach. That does not make MSG dangerous for the general public. If you think you react to it, MSG must be listed on the label when it is added.

Claim 14: "Glyphosate residues on food cause cancer."

Verdict: Inconclusive.

What the evidence shows. Glyphosate is the weed killer sold as Roundup. Expert bodies disagree. The International Agency for Research on Cancer (IARC) classified glyphosate in 2015[471] as "probably carcinogenic to humans," as the EPA describes it. The EPA "reached a

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[469] FDA, "Questions and Answers on Monosodium glutamate (MSG)," content current as of July 17, 2026. https://www.fda.gov/food/food-additives-petitions/questions-and-answers-monosodium-glutamate-msg. Accessed November 12, 2026.

[470] FDA, "Questions and Answers on Monosodium glutamate (MSG)," content current as of July 17, 2026. https://www.fda.gov/food/food-additives-petitions/questions-and-answers-monosodium-glutamate-msg. Accessed November 12, 2026.

[471] IARC, "Q&A on Glyphosate," March 1, 2016 (refers to IARC Monographs Volume 112, 2015). https://www.iarc.who.int/news-events/qa-on-glyphosate/. Accessed November 12, 2026.

different conclusion": in its 2017 assessment it "concluded that glyphosate is not likely to be carcinogenic to humans."[472]

That EPA finding has been through court fights. In 2022 the EPA withdrew its interim decision on glyphosate after a federal appeals court ruling, but said its "finding that glyphosate is not likely to be carcinogenic to humans" remained the same.[473] As of its August 2026 update, the EPA said it "is updating its evaluation of glyphosate's potential to cause cancer," with a human health assessment expected in late 2026.[474]

Courts are a separate track. On June 25, 2026, in Monsanto v. Durnell, the Supreme Court ruled 7 to 2 that the federal pesticide law, FIFRA, "expressly preempts" a state-law claim that Monsanto failed to warn about cancer on its Roundup label. Justice Brett Kavanaugh wrote the majority opinion, and Justice Ketanji Brown Jackson wrote a dissent joined by Justice Neil Gorsuch, according to NPR. NPR said the ruling "could significantly narrow its liability in tens of thousands of cases."[475,476] The ruling is about who can be sued and for what. It is not a finding about whether glyphosate causes cancer.

Residues on food. USDA's Pesticide Data Program tests thousands of food samples a year. In 2024, more than 99 percent of samples had residues below the limits set by the Environmental Protection Agency (EPA), and 42.3 percent had no detectable residue at all.[477]

Why the verdict. "Probably carcinogenic" is a hazard rating: it says whether something can cause cancer at some level, not how likely it is at the levels people eat. Regulators who

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[472] EPA, "Glyphosate," last updated August 26, 2026. https://www.epa.gov/ingredients-used-pesticide-products/glyphosate. Accessed November 12, 2026.

[473] U.S. Environmental Protection Agency (EPA), "EPA Withdraws Glyphosate Interim Decision," released September 23, 2022, last updated August 31, 2026. https://www.epa.gov/pesticides/epa-withdraws-glyphosate-interim-decision. Accessed November 12, 2026.

[474] EPA, "Glyphosate," last updated August 26, 2026. https://www.epa.gov/ingredients-used-pesticide-products/glyphosate. Accessed November 12, 2026.

[475] NPR, "Supreme Court backs Monsanto in its fight against liability from popular weed killer," June 25, 2026. https://www.npr.org/2026/06/25/g-s1-120233/supreme-court-monsanto-roundup-decision. Accessed November 12, 2026.

[476] Supreme Court of the United States, Monsanto Co. v. Durnell, No. 24-1068, decided June 25, 2026. https://www.supremecourt.gov/opinions/25pdf/24-1068_n7ip.pdf. Accessed November 12, 2026.

[477] USDA AMS, "Pesticide Data Program Annual Summary, Calendar Year 2024," December 2025. https://www.ams.usda.gov/sites/default/files/media/PDPAnnualSummary.pdf. Accessed November 12, 2026.

look at actual exposure have reached different conclusions. Long-term studies of people with measured dietary exposure, rather than heavy farm use, would help settle the food question.

Claim 15: "Raw milk is safer and healthier than pasteurized milk."

Verdict: False (debunked).

What the evidence shows. Raw milk is milk that has not been pasteurized, or heated to kill germs. The CDC says raw milk "can expose people to germs such as" Campylobacter, Cryptosporidium, E. coli, Listeria, Brucella and Salmonella. The risk is highest for "children under 5, adults over 65, pregnant women, and people with weakened immune systems." The CDC adds: "Pasteurized milk offers the same nutritional benefits without the risks of raw milk consumption."[478]

A 2012 CDC study of 121 dairy-related outbreaks from 1993 to 2006 found that "in 60 percent of the outbreaks (73 outbreaks) state health officials determined raw milk products were the cause." Because so little milk is sold raw, the CDC estimated the rate of outbreaks from raw milk "was 150 times greater than outbreaks linked to pasteurized milk."[479] The CDC also "recommends against consuming raw milk contaminated with live A(H5N1) virus," the bird flu virus.[480]

History. Milk was once a major source of disease. In the 1850s, New York newspapers blamed "swill milk" from cows fed distillery waste for thousands of children's deaths.[481] Chapter 1 tells that story.

Why the verdict. Raw milk carries a higher risk of serious infection than pasteurized milk, and the health benefits claimed for it have not been shown in good studies. People are free to choose it where state law allows, but "safer" is not supported.

Claim 16: "Insects are being secretly added to your food."

Verdict: False (debunked).

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[478] CDC, "Raw Milk," last updated January 31, 2025. https://www.cdc.gov/food-safety/foods/raw-milk.html. Accessed November 12, 2026.

[479] CDC, "Majority of dairy-related disease outbreaks linked to raw milk," press release, February 21, 2012. https://www.cdc.gov/media/releases/2012/p0221_raw_milk_outbreak.html. Accessed November 12, 2026.

[480] CDC, "Raw Milk," last updated January 31, 2025. https://www.cdc.gov/food-safety/foods/raw-milk.html. Accessed November 12, 2026.

[481] "The Surprisingly Intolerant History of Milk," Smithsonian Magazine (no byline or date shown on the page). https://www.smithsonianmag.com/history/surprisingly-intolerant-history-milk-180969056/. Accessed November 12, 2026.

Where it comes from. In 2021 and 2023, the European Union approved certain insect products as "novel foods," including dried yellow mealworm and partly defatted house cricket powder.[482,483] Social media posts turned this into a claim that insects were being hidden in ordinary food.

What the evidence shows. The EU approvals require labeling. The cricket and mealworm approvals say the label must name the ingredient, and must warn that it may cause allergic reactions in people allergic to crustaceans, mollusks or dust mites.[484,485] In the U.S., the general rule is that ingredients must be listed on the label. PolitiFact, checking a 2023 claim that a U.S. meat company would put insect protein in chicken nuggets, rated it False. The company said its insect products are for animal feed, pet food and fish farming. An FDA spokesperson told PolitiFact that the agency "has no specific regulations about insects as food for people," and that the law "requires manufacturers to label ingredients by their common names."[486]

There is one real exception worth knowing: carmine, a red color made from crushed cochineal insects, has been used for many years. The FDA requires it to be named on the label as "cochineal extract" or "carmine." Under federal rules, a food with this color "shall specifically declare the presence of the color additive by listing its respective common or usual name, 'cochineal extract' or 'carmine,' in the statement of ingredients."[487]

Why the verdict. Insect ingredients are legal in some places, but they must be labeled. Nothing I found shows that they are being added secretly.

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[482] European Commission. Commission Implementing Regulation (EU) 2021/882 of 1 June 2021 (dried Tenebrio molitor larva, yellow mealworm, as a novel food). https://eur-lex.europa.eu/eli/reg_impl/2021/882/oj. Accessed November 12, 2026.

[483] European Commission. Commission Implementing Regulation (EU) 2023/5 of 3 January 2023 (partially defatted powder of Acheta domesticus, house cricket, as a novel food). https://eur-lex.europa.eu/eli/reg_impl/2023/5/oj. Accessed November 12, 2026.

[484] European Commission. Commission Implementing Regulation (EU) 2021/882 of 1 June 2021 (dried Tenebrio molitor larva, yellow mealworm, as a novel food). https://eur-lex.europa.eu/eli/reg_impl/2021/882/oj. Accessed November 12, 2026.

[485] European Commission. Commission Implementing Regulation (EU) 2023/5 of 3 January 2023 (partially defatted powder of Acheta domesticus, house cricket, as a novel food). https://eur-lex.europa.eu/eli/reg_impl/2023/5/oj. Accessed November 12, 2026.

[486] Jeff Cercone, "Tyson Foods invests in insects, but not for your chicken nuggets," PolitiFact, December 14, 2023. https://politifact.com/factchecks/2023/dec/14/facebook-posts/tyson-foods-invests-in-insects-but-not-for-your-ch/. Accessed November 12, 2026.

[487] Code of Federal Regulations, 21 CFR 73.100, "Cochineal extract; carmine," eCFR, up to date as of October 20, 2026. https://www.ecfr.gov/current/title-21/chapter-I/subchapter-A/part-73/subpart-A/section-73.100. Accessed November 12, 2026.

Claim 17: "Lab-grown meat is sold without any label."

Verdict: False (debunked).

What the evidence shows. Meat grown from animal cells, called cultivated or cell-cultured meat, is reviewed by both the FDA and USDA. The FDA handles the cell collection and growing stage. USDA's FSIS takes over at harvest and oversees labeling for meat and poultry products.[488] FSIS requires these products to carry a label that tells you they were made from cultured cells. The FDA says "USDA-FSIS oversees the further production and labeling of these products."[489] When USDA approved the first two cultivated chicken products in June 2023, from Upside Foods and Good Meat, the label term was "cell-cultivated chicken," according to Food Dive.[490] The FDA lists completed safety consultations for cultivated chicken, pork fat and salmon.[491]

Several states have banned cultivated meat entirely. By June 2025, seven states had banned its sale: Texas, Florida, Alabama, Mississippi, Montana, Indiana and Nebraska, according to Food Safety Magazine. Indiana's ban runs from July 1, 2025, to June 30, 2027.[492] [I did not check whether more states acted after June 2025.]

Why the verdict. Cultivated meat sold in the U.S. goes through a federal review, and federal rules require its label to say what it is. The amount on the market is also very small.

Claim 18: "The Jungle was written to expose unsafe food."

Verdict: Partly true.

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[488] FDA, "Human Food Made with Cultured Animal Cells," content current as of March 7, 2025. https://www.fda.gov/food/food-ingredients-packaging/human-food-made-cultured-animal-cells. Accessed November 12, 2026.

[489] FDA, "Human Food Made with Cultured Animal Cells," content current as of March 7, 2025. https://www.fda.gov/food/food-ingredients-packaging/human-food-made-cultured-animal-cells. Accessed November 12, 2026.

[490] Megan Poinski, "USDA approves 'cell-cultivated chicken' label," Food Dive, June 14, 2023. https://www.fooddive.com/news/usda-cell-cultivated-chicken-label-upside-foods-eat-just/652975/. Accessed November 12, 2026.

[491] FDA, "Inventory of Completed Pre-market Consultations for Human Food Made with Cultured Animal Cells," content current as of March 7, 2025. https://www.fda.gov/food/human-food-made-cultured-animal-cells/inventory-completed-pre-market-consultations-human-food-made-cultured-animal-cells. Accessed November 12, 2026.

[492] Food Safety Magazine Editorial Team, "Texas Becomes Seventh State to Ban Cultivated Meat," Food Safety Magazine, June 25, 2025. https://www.food-safety.com/articles/10473-texas-becomes-seventh-state-to-ban-cultivated-meat. Accessed November 12, 2026.

What the evidence shows. Upton Sinclair wrote The Jungle mainly to expose the terrible lives of immigrant workers in Chicago's meatpacking plants and to make the case for socialism. The book was serialized in the socialist paper Appeal to Reason in 1905 and published as a book in February 1906.[493] Sinclair later said, "I aimed at the public's heart, and by accident I hit it in the stomach."[494] FDA historian James Harvey Young put it the same way: the book "aimed, as he later said, at people's hearts but hitting their stomachs instead."[495]

The food scenes did have an effect. The book "cut meat sales in half" and "angered President Roosevelt," according to Young.[496] Roosevelt sent investigators to Chicago. On June 4, 1906, he sent their report to Congress, calling conditions in the stockyards "revolting."[497] Both the meat law and the food law passed on June 30, 1906.[498]

Why the verdict. The true part: the book exposed filthy meat handling and helped pass the 1906 laws. The part that goes too far: food safety was not Sinclair's main goal. Workers were.

Claim 19: "The 2025 staff cuts stopped FDA food inspections."

Verdict: False (debunked).

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[493] Christopher Klein, "How Upton Sinclair's 'The Jungle' Led to US Food Safety Reforms," History.com, May 10, 2023, updated July 20, 2026. https://www.history.com/articles/upton-sinclair-the-jungle-us-food-safety-reforms. Accessed November 12, 2026.

[494] Christopher Klein, "How Upton Sinclair's 'The Jungle' Led to US Food Safety Reforms," History.com, May 10, 2023, updated July 20, 2026. https://www.history.com/articles/upton-sinclair-the-jungle-us-food-safety-reforms. Accessed November 12, 2026.

[495] James Harvey Young, "The Long Struggle for the Law," published by FDA, content current as of February 6, 2018. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/long-struggle-law. Accessed November 12, 2026.

[496] James Harvey Young, "The Long Struggle for the Law," published by FDA, content current as of February 6, 2018. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/long-struggle-law. Accessed November 12, 2026.

[497] Theodore Roosevelt, "Special Message" to Congress, June 4, 1906, The American Presidency Project, University of California, Santa Barbara. https://www.presidency.ucsb.edu/documents/special-message-401. Accessed November 12, 2026.

[498] FDA, "Part I: The 1906 Food and Drugs Act and Its Enforcement," April 24, 2019. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/part-i-1906-food-and-drugs-act-and-its-enforcement. Accessed November 12, 2026.

What the evidence shows. Staff cuts in 2025 did hit the FDA's food program. On February 17, 2025, Jim Jones, the FDA's deputy commissioner for human foods, resigned, writing that the firing of 89 staff made it "fruitless for me to continue in this role."[499] In March 2025, HHS announced it would cut its workforce from 82,000 to 62,000 full-time employees, and that the "FDA will decrease its workforce by approximately 3,500 full-time employees." HHS said: "This reduction will not affect drug, medical device, or food reviewers, nor will it impact inspectors."[500]

Inspections did not stop. ProPublica's November 2025 analysis of the FDA's public inspection dashboard found foreign food inspections were "nearly 30 percent lower" through July 2025 than in the same months of the two years before, and that in March 2025 they "dropped almost in half."[501] That is a large drop, but it is not a stop. The same report said the FDA "refused to provide ProPublica with up-to-date inspection numbers," so outside analysts are working from incomplete public data.[502]

Why the verdict. Inspections continued, so the claim as stated is false. The real, documented concern is that fewer foreign inspections happened, on top of a long-standing shortfall that GAO had already reported (Chapter 5).[503] Whether domestic inspections fell, and by how much, could be settled by full FDA data for fiscal years 2025 and 2026.

Claim 20: "Washing raw chicken makes it safer."

Verdict: False (debunked).

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[499] Bailee Henderson, "FDA Leader Jim Jones Resigns After 89 'Indiscriminate' Firings in Human Foods Program," Food Safety Magazine, February 18, 2025. https://www.food-safety.com/articles/10138-fda-leader-jim-jones-resigns-after-89-indiscriminate-firings-in-human-foods-program. Accessed November 12, 2026.

[500] HHS, "Fact Sheet: HHS' Transformation to Make America Healthy Again," March 27, 2025. https://www.hhs.gov/press-room/hhs-restructuring-doge-fact-sheet.html. Accessed November 12, 2026.

[501] Annie Waldman and Brandon Roberts, ProPublica, "U.S. Inspections of Foreign Food Facilities Hit New Low," republished by Undark, November 18, 2025. https://undark.org/2025/11/18/foreign-food-safety-inspections/. Accessed November 12, 2026.

[502] Annie Waldman and Brandon Roberts, ProPublica, "U.S. Inspections of Foreign Food Facilities Hit New Low," republished by Undark, November 18, 2025. https://undark.org/2025/11/18/foreign-food-safety-inspections/. Accessed November 12, 2026.

[503] GAO, "Food Safety: FDA Should Strengthen Inspection Efforts to Protect the U.S. Food Supply," GAO-25-107571, January 8, 2025. https://www.gao.gov/products/gao-25-107571. Accessed November 12, 2026.

What the evidence shows. The CDC says: "Raw chicken is ready to cook. It doesn't need to be washed first."[504] USDA's FSIS says that "washing raw poultry, beef, pork, lamb or veal before cooking it is not recommended as the safest method," because cooking to the right temperature kills the germs.[505]

A 2019 USDA study watched people cook in a test kitchen. USDA reported that "26 percent of participants that washed raw poultry transferred bacteria from that raw poultry" to a salad they made next, and "60 percent had bacteria in their sink after washing or rinsing the poultry." Even after cleaning, "14 percent still had bacteria in their sinks."[506]

Why the verdict. Washing does not remove the germs reliably, and it can spread them around your sink and counters. Cooking chicken to a safe internal temperature is what kills the germs.

What the twenty claims teach

Three patterns stand out.

First, many claims start with a real fact and stretch it. Europe does restrict some ingredients. Some children do react to some dyes. Two dyes are banned. The stretch is where the claim goes wrong.

Second, several claims mistake a hazard for a risk. A hazard rating says whether something can cause harm at some dose. Risk depends on how much you actually eat. Aspartame and glyphosate both live in this gap.

Third, the most important truth in this chapter is not a scary one. It is Claim 8. The government does not check every food before you buy it. Companies are responsible for safety, and the government checks some of them some of the time. Whether that system is good enough is a question for Part Seven.

How to test a food claim yourself

You will hear new food claims long after this book is out of date. Here is the method I used for the twenty above. You can use it on anything.

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[504] CDC, "Chicken and Food Poisoning," last updated April 29, 2024. https://www.cdc.gov/food-safety/foods/chicken.html. Accessed November 12, 2026.

[505] USDA Food Safety and Inspection Service, "Washing Food: Does it Promote Food Safety?" (undated web page). https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/washing-food-does-it-promote-food. Accessed November 12, 2026.

[506] USDA, "Washing Raw Poultry: Our Science, Your Choice," press release, August 20, 2019. https://www.usda.gov/about-usda/news/press-releases/2019/08/20/washing-raw-poultry-our-science-your-choice. Accessed November 12, 2026.

Step 1: Write the claim down exactly. Vague claims are hard to test. "Seed oils are bad" could mean toxic, fattening, or worse than butter. Each of those is a different question with different evidence. Pick the version the person actually said.

Step 2: Ask what kind of claim it is. Is it about the law ("this is banned"), about science ("this causes cancer"), or about what happened ("they stopped inspecting")? Each kind has its own best source.

- For the law, go to the agency page, the regulation or the court ruling. If someone says an ingredient is banned, the FDA's own pages on that ingredient will usually say so. Claim 9 is an example: the FDA's Red No. 3 page gives the exact dates.[507]
- For science, look for a review by an expert body, not a single study. The National Academies report on genetically engineered crops looked across hundreds of studies.[508] One rat study, like the retracted one in Claim 1, cannot outweigh that.[509]
- For events, look for an official record or reporting from the time, with names and dates.

Step 3: Separate hazard from risk. Many scary headlines come from hazard ratings. The International Agency for Research on Cancer says its ratings "do not reflect the risk of developing cancer at a given exposure level."[510] A hazard rating tells you something can cause harm at some dose. It does not tell you whether your diet is risky. Look for a risk assessment that uses real amounts people eat.

Step 4: Check the date. Food rules are changing fast. A claim that was true in 2023 may be false now, or the other way around. The brominated vegetable oil example in Claim 3 is a

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[507] FDA, "FD&C Red No. 3," content current as of October 5, 2026. https://www.fda.gov/industry/color-additives/fdc-red-no-3. Accessed November 12, 2026.

[508] National Academies of Sciences, Engineering, and Medicine, "Genetically Engineered Crops: Experiences and Prospects - New Report," news release, May 17, 2016. https://www.nationalacademies.org/news/2016/05/genetically-engineered-crops-experiences-and-prospects-new-report. Accessed November 12, 2026.

[509] Scientific American (reproduced from Nature), "Study Linking Genetically Modified Corn to Rat Tumors Is Retracted," November 28, 2013. https://www.scientificamerican.com/article/study-linking-genetically-modified-corn-to-cancer/. Accessed November 12, 2026.

[510] International Agency for Research on Cancer (IARC) and Joint FAO/WHO Expert Committee on Food Additives (JECFA), "Aspartame hazard and risk assessment results released," joint press release, July 14, 2023. https://www.iarc.who.int/wp-content/uploads/2023/07/Aspartame_PR.pdf. Accessed November 12, 2026.

good case: it used to be a real difference between the U.S. and Europe, and as of July 2024 it is not.[511]

Step 5: Look for who disagrees, and why. On almost every claim in this chapter, serious people disagree. The FDA disagreed with IARC on aspartame.[512] The EPA disagreed with IARC on glyphosate.[513] Knowing who disagrees and what evidence each side uses tells you more than any single verdict.

Step 6: Decide what would change your mind. If you cannot name any evidence that would change your view, you are not testing a claim. You are defending one. For each Inconclusive verdict above, I named the evidence that would settle it.

Step 7: Watch the word "chemical." Everything is made of chemicals, including water and vitamins. A long name on a label is not a sign of danger by itself, and a natural ingredient is not safe just because it is natural. The FDA's "natural" policy, for example, says nothing about safety at all.[514]

Red flags in food claims

Some signs that a claim needs a closer look:

Warning signs in food claims. This table is my own guide, not an official list.

Red flag	Why it matters
"Banned in Europe" with no regulation number	Many such lists mix bans, warning labels and products never submitted for approval (Claim 3).
"Studies show" with no study named	You cannot check a study you cannot find.
One animal study	Animal studies often use very high doses. Expert reviews weigh many studies together.
"Toxic" or "poison"	These words describe dose, not just substance. Ask: how

[511] FDA, "List of Select Chemicals in the Food Supply Under FDA Review," table as of May 12, 2026, page modified October 29, 2026. https://www.fda.gov/food/food-chemical-safety/list-select-chemicals-food-supply-under-fda-review. Accessed November 12, 2026.

[512] FDA, "Aspartame and Other Sweeteners in Food," content current as of February 27, 2025. https://www.fda.gov/food/food-additives-petitions/aspartame-and-other-sweeteners-food. Accessed November 12, 2026.

[513] EPA, "Glyphosate," last updated August 26, 2026. https://www.epa.gov/ingredients-used-pesticide-products/glyphosate. Accessed November 12, 2026.

[514] FDA, "Use of the Term Natural on Food Labeling," content current as of October 22, 2018. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/use-term-natural-food-labeling. Accessed November 12, 2026.

Red flag	Why it matters
	much, how often?
A product for sale at the end	A claim that ends with a supplement, a cleanse or a special brand may be marketing.
"The government is hiding it"	Most food rules, inspections and recalls are public records. Check the record before accepting a cover-up story.
"Totally safe" or "zero risk"	Real safety science deals in levels of risk, not guarantees. That is true of claims from industry and government, too.

The last row matters. Red flags are not only for claims that scare you. A company that says its product is "totally safe" or a government that says a system is "the safest in the world" deserves the same questions.

Part Seven: Where Things Stand and the Options

Chapter 18: Where Things Stand Today

This chapter describes the situation as of November 12, 2026. Agency leaders, pending rules and court cases may have changed since then.

The years 2025 and 2026 brought more change to federal food policy than any period in decades. Some of it came from a new administration with a strong focus on food additives and diet. Some came from rules and court cases that had been moving for years. Here is where things stood on November 12, 2026.

Who is in charge

Office	Person (as of November 12, 2026)	Source
Secretary of Health and Human Services	Robert F. Kennedy Jr.	HHS[515]
Secretary of Agriculture	Brooke L. Rollins	USDA[516]
FDA Commissioner	Kyle A. Diamantas, acting commissioner since May 15, 2026. Before that he was the FDA's deputy	FDA[518,519]

[515] HHS, "Fact Sheet: Trump Administration Resets U.S. Nutrition Policy, Puts Real Food Back at the Center of Health," January 7, 2026. https://www.hhs.gov/press-room/fact-sheet-historic-reset-federal-nutrition-policy.html. Accessed November 12, 2026.

[516] USDA, "Leadership at USDA." https://www.usda.gov/about-usda/general-information/leadership-usda. Accessed November 12, 2026.

Office	Person (as of November 12, 2026)	Source
	commissioner for food.[517] Marty Makary served as commissioner from March 25, 2025 to May 13, 2026.	
FDA nominee	Heidi Overton. The Senate health committee scheduled a vote for November 18, 2026, according to STAT.	STAT[520]
FDA head of food programs	Donald A. Prater, acting deputy commissioner for food	FDA[521]
FSIS Administrator	Justin Ransom, as named in an April 23, 2026 USDA press release. [I read a summary of that part of the release, not the exact text, so treat the name as Likely but not confirmed word for word.]	USDA[522]

Why did Makary leave? The FDA's own page gives only the dates of his service.[523] I did not find an official statement of the reason, so I do not give one.

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[518] FDA, "Acting Commissioners," FDA Leadership 1907 to Today, content current as of May 15, 2026. https://www.fda.gov/about-fda/fda-leadership-1907-today/acting-commissioners. Accessed November 12, 2026.

[519] FDA, "Martin A. Makary, M.D., M.P.H.," FDA Leadership 1907 to Today. https://www.fda.gov/about-fda/fda-leadership-1907-today/martin-makary. Accessed November 12, 2026.

[517] FDA, "Kyle Diamantas, J.D.," content current as of May 15, 2026. https://www.fda.gov/about-fda/fda-organization/kyle-diamantas. Accessed November 12, 2026.

[520] Margaret Manto, "Senate health committee schedules vote on FDA commissioner nominee Overton," STAT, November 11, 2026. https://www.statnews.com/2026/11/11/fda-commissioner-nominee-heidi-overton-senate-committee-vote/. Accessed November 12, 2026.

[521] FDA, "Human Foods Program," content current as of October 1, 2026. https://www.fda.gov/about-fda/fda-organization/human-foods-program. Accessed November 12, 2026.

[522] USDA, "USDA Announces Food Safety and Inspection Service Reorganization, Establishes National Food Safety Center in Iowa," press release, April 23, 2026. https://www.usda.gov/about-usda/news/press-releases/2026/04/23/usda-announces-food-safety-and-inspection-service-reorganization-establishes-national-food-safety. Accessed November 12, 2026.

[523] FDA, "Martin A. Makary, M.D., M.P.H.," FDA Leadership 1907 to Today. https://www.fda.gov/about-fda/fda-leadership-1907-today/martin-makary. Accessed November 12, 2026.

The MAHA agenda

In February 2025, President Trump created the Make America Healthy Again (MAHA) Commission by executive order, chaired by Secretary Kennedy. Its first report, the "Make Our Children Healthy Again Assessment," came out on May 22, 2025. It said "nearly 70% of children's calories now come from UPFs" (ultra-processed foods) and that "the American food system is safe but could be healthier."[524] The follow-up strategy, released in September 2025, called for steps to "limit or prohibit the use of petroleum-based food dyes," to "develop a U.S. government-wide definition" of ultra-processed food, and to close the "GRAS loophole."[525]

One detail shows why reading the source matters. The assessment says "nearly 70%" of children's calories come from "UPFs." The strategy, four months later, says "over 60%" come from "highly processed foods."[526,527] The two numbers use different terms and are not the same claim.

Critics raised concerns about the May 2025 assessment's footnotes. The news site NOTUS reported that some cited studies did not exist. One researcher named as an author of a cited paper told NOTUS that "the paper cited is not a real paper that I or my colleagues were involved with." The White House called the problems "minor citation and formatting errors," and by May 30, 2025, "at least 18 citations in the report had been changed or replaced," according to a tracker kept by Columbia Law School's Sabin Center for Climate Change Law.[528] [I did not read the original NOTUS story; this account comes from the Sabin Center's summary, a Tier 5 source.]

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[524] Make America Healthy Again Commission, "Make Our Children Healthy Again Assessment," The White House, released May 22, 2025. https://www.whitehouse.gov/wp-content/uploads/2025/05/MAHA-Report-The-White-House.pdf. Accessed November 12, 2026.

[525] Make America Healthy Again Commission, "Make Our Children Healthy Again Strategy" (Strategy Report), The White House, September 2025. https://www.whitehouse.gov/wp-content/uploads/2025/09/The-MAHA-Strategy-WH.pdf. Accessed November 12, 2026.

[526] Make America Healthy Again Commission, "Make Our Children Healthy Again Assessment," The White House, released May 22, 2025. https://www.whitehouse.gov/wp-content/uploads/2025/05/MAHA-Report-The-White-House.pdf. Accessed November 12, 2026.

[527] Make America Healthy Again Commission, "Make Our Children Healthy Again Strategy" (Strategy Report), The White House, September 2025. https://www.whitehouse.gov/wp-content/uploads/2025/09/The-MAHA-Strategy-WH.pdf. Accessed November 12, 2026.

[528] Sabin Center for Climate Change Law, Columbia Law School, "'MAHA' Report Contains Numerous Errors, Cites Nonexistent Studies," updated May 2025.

Actions on food chemicals

Date	Action	Status as of November 12, 2026	Source
January 15, 2025	Red No. 3 revoked under the Delaney Clause	Food makers must stop by January 15, 2027	FDA[529]
April 22, 2025	Plan to phase out petroleum dyes	Voluntary; target end of 2027 in later FDA material	FDA[530]; FDA[531]
May and July 2025; February 2026	Natural colors approved or expanded	In effect	FDA[532,533,534]
July 22, 2026	Orange B revoked;	Orange B revocation effective	FDA[535,536]

https://climate.law.columbia.edu/content/maha-report-contains-numerous-errors-cites-nonexistent-studies. Accessed November 12, 2026.

[529] FDA, "FD&C Red No. 3," content current as of October 5, 2026. https://www.fda.gov/industry/color-additives/fdc-red-no-3. Accessed November 12, 2026.

[530] FDA, "HHS, FDA to Phase Out Petroleum-Based Synthetic Dyes in Nation's Food Supply," press release, April 22, 2025. https://www.fda.gov/news-events/press-announcements/hhs-fda-phase-out-petroleum-based-synthetic-dyes-nations-food-supply. Accessed November 12, 2026.

[531] FDA, "Tracking Food Industry Pledges to Remove Petroleum Based Food Dyes," content current as of October 16, 2026. https://www.fda.gov/food/color-additives-information-consumers/tracking-food-industry-pledges-remove-petroleum-based-food-dyes. Accessed November 12, 2026.

[532] FDA, "FDA Approves Three Food Colors from Natural Sources," press release, May 9, 2025. https://www.fda.gov/news-events/press-announcements/fda-approves-three-food-colors-natural-sources. Accessed November 12, 2026.

[533] FDA, "FDA Approves Gardenia (Genipin) Blue Color Additive While Encouraging Faster Phase-Out of FD&C Red No. 3," press release, July 14, 2025. https://www.fda.gov/news-events/press-announcements/fda-approves-gardenia-genipin-blue-color-additive-while-encouraging-faster-phase-out-fdc-red-no-3. Accessed November 12, 2026.

[534] FDA, "FDA Takes New Approach to 'No Artificial Colors' Claims," press release, February 5, 2026. https://www.fda.gov/news-events/press-announcements/fda-takes-new-approach-no-artificial-colors-claims. Accessed November 12, 2026.

[535] FDA, "FDA Takes Further Steps to Remove Outdated Authorizations for Color Additives in Food," press release, July 22, 2026. https://www.fda.gov/news-events/press-

Date	Action	Status as of November 12, 2026	Source
	Citrus Red No. 2 proposed for revocation	September 8, 2026; Citrus Red No. 2 still proposed	
July 25, 2025	Request for information on defining ultra-processed food	Proposed definition sent to the White House budget office for review; text not released as of October 13, 2026	Federal Register[537]; Greenberg Traurig[538]
August 10 and 11, 2026	Proposed rule to require GRAS notices	Comment period open until about December 9, 2026	FDA[539]; Food Safety Magazine[540]
2026	Post-market review of BHA, BHT, ADA and others	Under review	FDA[541]

announcements/fda-takes-further-steps-remove-outdated-authorizations-color-additives-food. Accessed November 12, 2026.

[536] FDA, "FDA Proposes Revocation of Authorization for Orange B in Food," constituent update, September 17, 2025, updated July 22, 2026. https://www.fda.gov/food/hfp-constituent-updates/fda-proposes-revocation-authorization-orange-b-food. Accessed November 12, 2026.

[537] FDA and USDA, "Ultra-Processed Foods; Request for Information," Federal Register, July 25, 2025, document 2025-14089 (GovInfo). https://www.govinfo.gov/content/pkg/FR-2025-07-25/html/2025-14089.htm. Accessed November 12, 2026.

[538] Greenberg Traurig LLP, "More Than Research? Why the Coming Federal Definition of Ultra-Processed Foods Matters," GT Alert, October 13, 2026 (law firm analysis). https://www.gtlaw.com/en/insights/2026/10/more-than-research-why-the-coming-federal-definition-of-ultra-processed-foods-matters. Accessed November 12, 2026.

[539] FDA, "Generally Recognized as Safe (GRAS)," content current as of August 10, 2026. https://www.fda.gov/food/food-ingredients-packaging/generally-recognized-safe-gras. Accessed November 12, 2026.

[540] Bailee Henderson, "FDA Proposes Mandatory GRAS Notifications for Ingredients Introduced to U.S. Food Supply," Food Safety Magazine, August 10, 2026. https://www.food-safety.com/articles/11713-fda-proposes-mandatory-gras-notifications-for-ingredients-introduced-to-us-food-supply. Accessed November 12, 2026.

[541] FDA, "List of Select Chemicals in the Food Supply Under FDA Review," table as of May 12, 2026, page modified October 29, 2026. https://www.fda.gov/food/food-chemical-safety/list-select-chemicals-food-supply-under-fda-review. Accessed November 12, 2026.

The FDA food program's 2026 plan

In February 2026, the FDA's Human Foods Program published its list of priority deliverables for the year.[542] The main items, as the plan describes them:

- **Ultra-processed food.** Work with USDA "to develop a federal government definition of UPFs."
- **Front-of-package labels.** "Prepare options for leadership to make decisions on the content of a final regulation."
- **GRAS.** A proposed regulation on GRAS notification, which the FDA issued in August 2026 (Chapter 10).[543]
- **Colors.** Draft guidance on using juices as color, part of the move away from petroleum-based dyes.
- **Infant formula.** Continue "Operation Stork Speed," an infant formula effort that began in March 2025.
- **Chemicals already in food.** Post a "Systematic Post-Market Assessment" process and start with phthalates, propylparaben, BHA and BHT, among others.

[I summarize the plan's items from my notes on the FDA page; the quoted phrases are the FDA's own words.][544]

How much of the plan was done by November 12, 2026? The GRAS proposal was published.[545] A proposed UPF definition was under review at the White House budget office but not released as of mid-October.[546] I found no final front-of-package rule.[547] I did not find a public status report on the other items.

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[542] FDA, "Human Foods Program 2026 Priority Deliverables," content current as of February 10, 2026. https://www.fda.gov/about-fda/human-foods-program/human-foods-program-2026-priority-deliverables. Accessed November 12, 2026.

[543] FDA, "Generally Recognized as Safe (GRAS)," content current as of August 10, 2026. https://www.fda.gov/food/food-ingredients-packaging/generally-recognized-safe-gras. Accessed November 12, 2026.

[544] FDA, "Human Foods Program 2026 Priority Deliverables," content current as of February 10, 2026. https://www.fda.gov/about-fda/human-foods-program/human-foods-program-2026-priority-deliverables. Accessed November 12, 2026.

[545] FDA, "Generally Recognized as Safe (GRAS)," content current as of August 10, 2026. https://www.fda.gov/food/food-ingredients-packaging/generally-recognized-safe-gras. Accessed November 12, 2026.

[546] Greenberg Traurig LLP, "More Than Research? Why the Coming Federal Definition of Ultra-Processed Foods Matters," GT Alert, October 13, 2026 (law firm analysis). https://www.gtlaw.com/en/insights/2026/10/more-than-research-why-the-coming-federal-definition-of-ultra-processed-foods-matters. Accessed November 12, 2026.

Nutrition and labels

- **Dietary Guidelines.** The 2025-2030 guidelines came out January 7, 2026 (Chapter 14).[548]
- **"Healthy" claim.** The updated rule took effect April 28, 2025, with three years for companies to conform. No symbol had been finalized in the pages I read.[549]
- **Front-of-package label.** Proposed, with the comment period extended to July 15, 2025.[550] The FDA's 2026 plan was to prepare options for a final rule.[551] A law firm alert in October 2026 still called it "a pending front-of-package nutrition labeling rule."[552] I found no final rule as of November 12, 2026.
- **Date labels.** USDA and the FDA asked for public input in December 2024. No federal rule as of November 12, 2026.[553]

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[547] FDA, "Front-of-Package Nutrition Labeling," content current as of May 8, 2025. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/front-package-nutrition-labeling. Accessed November 12, 2026.

[548] HHS, "Fact Sheet: Trump Administration Resets U.S. Nutrition Policy, Puts Real Food Back at the Center of Health," January 7, 2026. https://www.hhs.gov/press-room/fact-sheet-historic-reset-federal-nutrition-policy.html. Accessed November 12, 2026.

[549] FDA, "FDA Finalizes Updated 'Healthy' Nutrient Content Claim," constituent update, December 19, 2024, content current as of February 24, 2025. https://www.fda.gov/food/hfp-constituent-updates/fda-finalizes-updated-healthy-nutrient-content-claim. Accessed November 12, 2026.

[550] FDA, "Front-of-Package Nutrition Labeling," content current as of May 8, 2025. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/front-package-nutrition-labeling. Accessed November 12, 2026.

[551] FDA, "Human Foods Program 2026 Priority Deliverables," content current as of February 10, 2026. https://www.fda.gov/about-fda/human-foods-program/human-foods-program-2026-priority-deliverables. Accessed November 12, 2026.

[552] Greenberg Traurig LLP, "More Than Research? Why the Coming Federal Definition of Ultra-Processed Foods Matters," GT Alert, October 13, 2026 (law firm analysis). https://www.gtlaw.com/en/insights/2026/10/more-than-research-why-the-coming-federal-definition-of-ultra-processed-foods-matters. Accessed November 12, 2026.

[553] USDA FSIS and FDA, "Food Date Labeling," request for information, Federal Register document 2024-27810, filed December 3, 2024 (page edited January 2025). https://www.fsis.usda.gov/policy/federal-register-rulemaking/federal-register-notices/food-date-labeling. Accessed November 12, 2026.

Food safety oversight

- **Inspections.** GAO found in January 2025 that the FDA had missed its inspection targets every year since 2018.[554] A ProPublica analysis found foreign food inspections fell further in 2025.[555]
- **Poultry Salmonella.** FSIS withdrew its proposed Salmonella framework for raw poultry in April 2025.[556]
- **Traceability.** The food tracing rule's compliance date is expected to move to July 20, 2028, and Congress directed the FDA not to enforce it before then.[557]
- **Domestic inspections.** In May 2025, the HHS Office of Inspector General (OIG) reported that the "FDA is conducting fewer inspections of food facilities compared to the number prior to the pandemic," that it "did not inspect many facilities within the required timeframes," and that it "attempted to inspect thousands of facilities that were not in operation." The FDA "concurred with all four" of the OIG's recommendations.[558]
- **Staffing.** In March 2025, HHS announced the FDA would shrink by about 3,500 full-time employees, while saying the cuts would not "impact inspectors."[559]

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[554] GAO, "Food Safety: FDA Should Strengthen Inspection Efforts to Protect the U.S. Food Supply," GAO-25-107571, January 8, 2025. https://www.gao.gov/products/gao-25-107571. Accessed November 12, 2026.

[555] Annie Waldman and Brandon Roberts, ProPublica, "U.S. Inspections of Foreign Food Facilities Hit New Low," republished by Undark, November 18, 2025. https://undark.org/2025/11/18/foreign-food-safety-inspections/. Accessed November 12, 2026.

[556] USDA FSIS, "Salmonella Framework for Raw Poultry Products," withdrawal of proposed rule, Federal Register, April 25, 2025, document 2025-07187. https://www.federalregister.gov/documents/2025/04/25/2025-07187/salmonella-framework-for-raw-poultry-products. Accessed November 12, 2026.

[557] FDA, "FSMA Final Rule on Requirements for Additional Traceability Records for Certain Foods," content current as of November 4, 2026. https://www.fda.gov/food/food-safety-modernization-act-fsma/fsma-final-rule-requirements-additional-traceability-records-certain-foods. Accessed November 12, 2026.

[558] HHS Office of Inspector General, "FDA Food Safety Inspections of Domestic Food Facilities," OEI-02-23-00300, May 30, 2025. https://oig.hhs.gov/reports/all/2025/fda-food-safety-inspections-of-domestic-food-facilities/. Accessed November 12, 2026.

[559] HHS, "Fact Sheet: HHS' Transformation to Make America Healthy Again," March 27, 2025. https://www.hhs.gov/press-room/hhs-restructuring-doge-fact-sheet.html. Accessed November 12, 2026.

- **USDA reorganization.** In April 2026, USDA announced a reorganization of FSIS, including a new National Food Safety Center in Iowa. [I read a summary of the release's details, not the full text, so I do not give the numbers here.][560]
- **Surveillance.** CDC's FoodNet made reporting optional for most germs from July 2025, keeping Salmonella and STEC required.[561]

Pesticides

On June 25, 2026, the Supreme Court decided Monsanto Co. v. Durnell, 7 to 2, holding that federal pesticide law "expressly preempts" a state-law claim that Monsanto failed to warn of cancer risk on its glyphosate label, according to NPR (Chapter 13).[562,563] Separately, the EPA said in August 2026 that it was updating its evaluation of whether glyphosate can cause cancer, with completion of its human health assessment "anticipated in late 2026."[564]

The states

States kept acting on their own.

Selected state food laws, as of the dates of the sources cited.

State	Law	Status as of the source date	Source
California	Assembly Bill 418: bans	Takes effect in 2027	NBC News[565]

[560] USDA, "USDA Announces Food Safety and Inspection Service Reorganization, Establishes National Food Safety Center in Iowa," press release, April 23, 2026. https://www.usda.gov/about-usda/news/press-releases/2026/04/23/usda-announces-food-safety-and-inspection-service-reorganization-establishes-national-food-safety. Accessed November 12, 2026.

[561] CDC, "About FoodNet," last reviewed April 28, 2026. https://www.cdc.gov/foodnet/about/index.html. Accessed November 12, 2026.

[562] NPR, "Supreme Court backs Monsanto in its fight against liability from popular weed killer," June 25, 2026. https://www.npr.org/2026/06/25/g-s1-120233/supreme-court-monsanto-roundup-decision. Accessed November 12, 2026.

[563] Supreme Court of the United States, Monsanto Co. v. Durnell, No. 24-1068, decided June 25, 2026. https://www.supremecourt.gov/opinions/25pdf/24-1068_n7ip.pdf. Accessed November 12, 2026.

[564] EPA, "Glyphosate," last updated August 26, 2026. https://www.epa.gov/ingredients-used-pesticide-products/glyphosate. Accessed November 12, 2026.

[565] NBC News, "California becomes first state to ban four chemicals in food, including red dye No. 3," October 2023. https://www.nbcnews.com/news/us-news/california-becomes-first-state-ban-four-chemicals-food-red-dye-no-3-rcna119660. Accessed November 12, 2026.

State	Law	Status as of the source date	Source
	Red No. 3, potassium bromate, brominated vegetable oil and propylparaben		
West Virginia	House Bill 2354: bans seven synthetic dyes, plus BHA and propylparaben	School meals from August 1, 2025; all food from January 1, 2028	Governor's office[566]
Texas	Senate Bill 25, Section 9: warning label for 44 ingredients	Blocked by a preliminary injunction on February 11, 2026, for the plaintiff trade groups and their members	Covington and Burling[567]
Texas, Florida, Alabama, Mississippi, Montana, Indiana, Nebraska	Bans on selling cultivated meat	Seven states by June 2025; Indiana's ban runs July 1, 2025 to June 30, 2027	Food Safety Magazine[568]

[I did not check whether other states passed similar laws after these sources were published.]

Chapter 19: The Reform Options

This chapter lays out the main proposals people are debating, who backs them, and what the evidence says. I do not recommend any of them. My job is to give you the strongest case for and against each one, so you can decide.

A note on sources in this chapter. Where a group or official has made an argument on the record, I cite it. Where I describe an argument without a note, it is my plain summary of a

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[566] Office of the Governor of West Virginia, "Governor Patrick Morrisey Signs Food Dye Legislation Into Law," March 24, 2025. https://governor.wv.gov/article/governor-patrick-morrisey-signs-food-dye-legislation-law. Accessed November 12, 2026.

[567] Covington and Burling LLP, "Court Enjoins Texas SB 25 Food Label Warning Requirement," February 12, 2026 (law firm analysis). https://www.cov.com/en/news-and-insights/insights/2026/02/court-enjoins-texas-sb-25-food-label-warning-requirement. Accessed November 12, 2026.

[568] Food Safety Magazine Editorial Team, "Texas Becomes Seventh State to Ban Cultivated Meat," Food Safety Magazine, June 25, 2025. https://www.food-safety.com/articles/10473-texas-becomes-seventh-state-to-ban-cultivated-meat. Accessed November 12, 2026.

position commonly made in the debate, not a quote from any named person or group. I mark those that way so you can tell them apart.

Here is the whole menu at a glance.

Food policy reform options and their status, as of November 12, 2026.

#	Option	Main backers named in this book	Status as of November 12, 2026
1	One food safety agency	Sen. Durbin and Rep. DeLauro; Consumer Reports and other groups[569]	Bill introduced December 10, 2025
2	More FDA inspections and funding, or realistic targets	GAO[570]	GAO recommendations partly open
3	Mandatory GRAS notification	FDA proposal; MAHA strategy[571,572]	Proposed rule; comments due December 9, 2026
4	Banning synthetic dyes outright	MAHA strategy; some states[573,574]	Two dyes revoked; others voluntary phase-out
5	National date label	USDA and FDA request for	No rule

[569] Office of Senator Dick Durbin, "Durbin, DeLauro Introduce the Federal Food Administration Act," press release, December 10, 2025. https://www.durbin.senate.gov/newsroom/press-releases/durbin-delauro-introduce-the-federal-food-administration-act. Accessed November 12, 2026.

[570] GAO, "Food Safety: FDA Should Strengthen Inspection Efforts to Protect the U.S. Food Supply," GAO-25-107571, January 8, 2025. https://www.gao.gov/products/gao-25-107571. Accessed November 12, 2026.

[571] FDA, "Generally Recognized as Safe (GRAS)," content current as of August 10, 2026. https://www.fda.gov/food/food-ingredients-packaging/generally-recognized-safe-gras. Accessed November 12, 2026.

[572] Make America Healthy Again Commission, "Make Our Children Healthy Again Strategy" (Strategy Report), The White House, September 2025. https://www.whitehouse.gov/wp-content/uploads/2025/09/The-MAHA-Strategy-WH.pdf. Accessed November 12, 2026.

[573] Make America Healthy Again Commission, "Make Our Children Healthy Again Strategy" (Strategy Report), The White House, September 2025. https://www.whitehouse.gov/wp-content/uploads/2025/09/The-MAHA-Strategy-WH.pdf. Accessed November 12, 2026.

[574] Office of the Governor of West Virginia, "Governor Patrick Morrisey Signs Food Dye Legislation Into Law," March 24, 2025. https://governor.wv.gov/article/governor-patrick-morrisey-signs-food-dye-legislation-law. Accessed November 12, 2026.

#	Option	Main backers named in this book	Status as of November 12, 2026
	standard	information[575]	
6	Legal definition of ultra-processed food	FDA and USDA; MAHA strategy[576,577]	Draft definition under White House review[578]
7	Front-of-package nutrition labels	FDA proposal[579]	Proposed, not final
8	National rules that override state rules	Food industry trade groups in court[580]	Patchwork of state laws

1. One food safety agency

The proposal. Combine the food work of the FDA, and possibly FSIS, into a single agency.

Who backs it. Senator Dick Durbin and Representative Rosa DeLauro introduced the Federal Food Administration Act on December 10, 2025. It would create a Federal Food Administration inside HHS with a Senate-confirmed commissioner, moving the FDA's food, veterinary and inspection programs into it. Consumer Reports, the Consumer Federation of

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[575] USDA FSIS and FDA, "Food Date Labeling," request for information, Federal Register document 2024-27810, filed December 3, 2024 (page edited January 2025). https://www.fsis.usda.gov/policy/federal-register-rulemaking/federal-register-notices/food-date-labeling. Accessed November 12, 2026.

[576] FDA and USDA, "Ultra-Processed Foods; Request for Information," Federal Register, July 25, 2025, document 2025-14089 (GovInfo). https://www.govinfo.gov/content/pkg/FR-2025-07-25/html/2025-14089.htm. Accessed November 12, 2026.

[577] Make America Healthy Again Commission, "Make Our Children Healthy Again Strategy" (Strategy Report), The White House, September 2025. https://www.whitehouse.gov/wp-content/uploads/2025/09/The-MAHA-Strategy-WH.pdf. Accessed November 12, 2026.

[578] Greenberg Traurig LLP, "More Than Research? Why the Coming Federal Definition of Ultra-Processed Foods Matters," GT Alert, October 13, 2026 (law firm analysis). https://www.gtlaw.com/en/insights/2026/10/more-than-research-why-the-coming-federal-definition-of-ultra-processed-foods-matters. Accessed November 12, 2026.

[579] FDA, "Front-of-Package Nutrition Labeling," content current as of May 8, 2025. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/front-package-nutrition-labeling. Accessed November 12, 2026.

[580] Covington and Burling LLP, "Court Enjoins Texas SB 25 Food Label Warning Requirement," February 12, 2026 (law firm analysis). https://www.cov.com/en/news-and-insights/insights/2026/02/court-enjoins-texas-sb-25-food-label-warning-requirement. Accessed November 12, 2026.

America, the Environmental Working Group and STOP Foodborne Illness endorsed it.[581] The bill does not, according to its sponsors' release, move USDA's meat inspection.[582] [This reading of the release should be confirmed against the bill text.]

The case for. GAO has said for years that fragmentation "causes inconsistent oversight, ineffective coordination, and inefficient use of resources," and has kept food safety on its high-risk list since 2007.[583,584] A single food agency would have one leader focused only on food rather than sharing attention with drugs and medical devices.

The case against. Reorganizing is costly and slow, and it does not by itself add inspectors or money. Some argue the FDA's problems are about funding and staff, not structure. The FDA's own 2022 review of the infant formula crisis pointed in that direction, finding that "funding limitations have stalled the growth of the foods program."[585] GAO's count of missed inspections also traces back to staffing: the FDA had 432 food investigators in July 2024, about 90 percent of its ceiling.[586] [I did not find a named source from the meat and poultry industry on the single-agency question, so I do not attribute a position to it.]

The evidence. GAO's work documents the coordination problems, but there is no U.S. trial of a single agency to measure results.

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[581] Office of Senator Dick Durbin, "Durbin, DeLauro Introduce the Federal Food Administration Act," press release, December 10, 2025. https://www.durbin.senate.gov/newsroom/press-releases/durbin-delauro-introduce-the-federal-food-administration-act. Accessed November 12, 2026.

[582] Office of Senator Dick Durbin, "Durbin, DeLauro Introduce the Federal Food Administration Act," press release, December 10, 2025. https://www.durbin.senate.gov/newsroom/press-releases/durbin-delauro-introduce-the-federal-food-administration-act. Accessed November 12, 2026.

[583] U.S. Government Accountability Office (GAO), "Food Safety: Status of Foodborne Illness in the U.S.," GAO-25-107606, February 3, 2025. https://www.gao.gov/assets/gao-25-107606.pdf. Accessed November 12, 2026.

[584] GAO, "High-Risk Series: Heightened Attention Could Save Billions More and Improve Government Efficiency and Effectiveness," GAO-25-107743, February 25, 2025. https://www.gao.gov/products/gao-25-107743. Accessed November 12, 2026.

[585] FDA, "FDA Evaluation of Infant Formula Response," led by Steven M. Solomon, September 2022. https://www.fda.gov/media/161689/download. Accessed November 12, 2026.

[586] GAO, "Food Safety: FDA Should Strengthen Inspection Efforts to Protect the U.S. Food Supply," GAO-25-107571, January 8, 2025. https://www.gao.gov/products/gao-25-107571. Accessed November 12, 2026.

2. More inspections and more money for the FDA

The proposal. Fund and staff the FDA so it can meet the inspection targets in the 2011 law, or change the targets to something achievable.

Who backs it. GAO asked Congress to set a realistic foreign inspection number and update the target.[587] [I did not check the positions of specific consumer or industry groups on FDA funding for this book.]

The case for. The FDA averaged 917 foreign inspections a year against a target of 19,200, and missed nearly half of its high-risk domestic inspections in 2021.[588] About 15 percent of the food supply is imported.[589]

The case against. Supporters of smaller government argue more money does not guarantee better results, and that companies, not inspectors, are responsible for safe food under FSMA's prevention rules. Others argue risk-based targeting and data can do more than adding inspections.

The evidence. GAO's numbers show the gap clearly. What they do not show is how much additional inspection would reduce illness.

3. Mandatory GRAS notification

The proposal. Require companies to tell the FDA before using a substance they consider GRAS.

Who backs it. The FDA under the current administration proposed it in August 2026.[590] The MAHA strategy calls for it.[591] Consumer advocacy groups have long backed it. Senator

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[587] GAO, "Food Safety: FDA Should Strengthen Inspection Efforts to Protect the U.S. Food Supply," GAO-25-107571, January 8, 2025. https://www.gao.gov/products/gao-25-107571. Accessed November 12, 2026.

[588] GAO, "Food Safety: FDA Should Strengthen Inspection Efforts to Protect the U.S. Food Supply," GAO-25-107571, January 8, 2025. https://www.gao.gov/products/gao-25-107571. Accessed November 12, 2026.

[589] U.S. Government Accountability Office (GAO), "Food Safety: Status of Foodborne Illness in the U.S.," GAO-25-107606, February 3, 2025. https://www.gao.gov/assets/gao-25-107606.pdf. Accessed November 12, 2026.

[590] FDA, "Generally Recognized as Safe (GRAS)," content current as of August 10, 2026. https://www.fda.gov/food/food-ingredients-packaging/generally-recognized-safe-gras. Accessed November 12, 2026.

[591] Make America Healthy Again Commission, "Make Our Children Healthy Again Strategy" (Strategy Report), The White House, September 2025. https://www.whitehouse.gov/wp-content/uploads/2025/09/The-MAHA-Strategy-WH.pdf. Accessed November 12, 2026.

Roger Marshall introduced the Better Food Disclosure Act (S. 3122) on November 6, 2025, on the same topic, according to a law firm summary.[592] [I did not read the bill text on Congress.gov.]

The case for. The FDA cannot review what it does not know about. Ending self-affirmation would give the agency and the public a full list of GRAS uses.

The case against. Industry groups have raised concerns about cost and delays, and a law firm analysis points out the FDA itself said in 2016 that it lacked express legal authority to require GRAS notices, which could invite lawsuits.[593] Some say Congress, not the FDA, should make this change.

The evidence. This is a question of process and transparency more than of science.

4. Banning food dyes outright

The proposal. Move from voluntary phase-outs to formal bans on the remaining petroleum-based dyes.

Who backs it. The MAHA strategy calls for steps to "limit or prohibit" them.[594] Several states have passed bans. Consumer groups have petitioned for years.

The case for. Voluntary pledges can slip, as the move from end-of-2026 to end-of-2027 shows.[595,596] California's review found the dyes affect some children's behavior and that federal safety limits may not protect them.[597]

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[592] Todd A. Harrison, "New Details Emerge on FDA's GRAS Rulemaking," Venable LLP, July 16, 2026 (law firm analysis). https://www.venable.com/insights/publications/2026/07/new-details-emerge-on-fdas-gras-rulemaking. Accessed November 12, 2026.

[593] Todd A. Harrison, "New Details Emerge on FDA's GRAS Rulemaking," Venable LLP, July 16, 2026 (law firm analysis). https://www.venable.com/insights/publications/2026/07/new-details-emerge-on-fdas-gras-rulemaking. Accessed November 12, 2026.

[594] Make America Healthy Again Commission, "Make Our Children Healthy Again Strategy" (Strategy Report), The White House, September 2025. https://www.whitehouse.gov/wp-content/uploads/2025/09/The-MAHA-Strategy-WH.pdf. Accessed November 12, 2026.

[595] FDA, "HHS, FDA to Phase Out Petroleum-Based Synthetic Dyes in Nation's Food Supply," press release, April 22, 2025. https://www.fda.gov/news-events/press-announcements/hhs-fda-phase-out-petroleum-based-synthetic-dyes-nations-food-supply. Accessed November 12, 2026.

[596] FDA, "Tracking Food Industry Pledges to Remove Petroleum Based Food Dyes," content current as of October 16, 2026. https://www.fda.gov/food/color-additives-information-

The case against. Under the law, the FDA needs scientific grounds to revoke an approved color. The FDA has long said most children are not affected.[598] A ban could face legal challenges. Industry is already moving away from the dyes voluntarily.

The evidence. See Chapter 11. There is real but limited evidence of behavioral effects in some children. There is no evidence that the remaining dyes cause cancer in people.

5. A national standard for date labels

The proposal. Replace the patchwork of "sell by," "best by" and "use by" with two standard phrases, one for quality and one for safety.

Who backs it. USDA and the FDA already recommend "Best if Used By" for quality.[599] Bills in Congress, often called the Food Date Labeling Act, would make a standard mandatory. [Current bill number and sponsors not checked.]

The case for. USDA estimates 30 percent of the food supply is lost or wasted at the retail and consumer levels, and date confusion is one cause.[600]

The case against. Mandates cost companies money to relabel, and the voluntary approach is already spreading.

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consumers/tracking-food-industry-pledges-remove-petroleum-based-food-dyes. Accessed November 12, 2026.

[597] California Office of Environmental Health Hazard Assessment (OEHHA), "Health Effects Assessment: Potential Neurobehavioral Effects of Synthetic Food Dyes in Children," April 2021. https://www.oehha.ca.gov/risk-assessment/report/health-effects-assessment-potential-neurobehavioral-effects-synthetic-food-dyes-children. Accessed November 12, 2026.

[598] California Office of Environmental Health Hazard Assessment (OEHHA), "Health Effects Assessment: Potential Neurobehavioral Effects of Synthetic Food Dyes in Children," April 2021. https://www.oehha.ca.gov/risk-assessment/report/health-effects-assessment-potential-neurobehavioral-effects-synthetic-food-dyes-children. Accessed November 12, 2026.

[599] USDA FSIS and FDA, "Food Date Labeling," request for information, Federal Register document 2024-27810, filed December 3, 2024 (page edited January 2025). https://www.fsis.usda.gov/policy/federal-register-rulemaking/federal-register-notices/food-date-labeling. Accessed November 12, 2026.

[600] USDA FSIS, "Food Product Dating" (no date shown on page). https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/food-product-dating. Accessed November 12, 2026.

6. A legal definition of ultra-processed food

The proposal. Write a federal definition that could be used in research, nutrition programs and possibly labels.

Who backs it. HHS, the FDA and USDA under the current administration, who asked for public input in July 2025 and listed a definition as a 2026 goal.[601,602]

The case for. Without a definition, researchers and agencies use different meanings, and the public cannot easily tell which foods are in question.

The case against. Food scientists and industry argue that "processing" is too broad to define well, and that rules should target nutrients like sugar and salt instead. The government's own dietary guidelines say their "highly processed" advice is not a legal definition.[603]

The evidence. See Chapter 14. Strong observational links, limited experimental evidence, and a real debate over what is driving the effect.

7. Front-of-package warning labels

The proposal. Require a simple box on the front of packages rating saturated fat, sodium and added sugars.

Who backs it. The FDA proposed it in January 2025.[604] Public health groups support front-of-package labels. [Specific group positions not checked.]

The case for. Most shoppers do not turn the package over. A simple front label could help people compare foods quickly.

The case against. Industry groups have argued for their own voluntary front-of-pack system and against mandatory "high in" ratings. Some question whether such labels change what people buy.

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[601] FDA and USDA, "Ultra-Processed Foods; Request for Information," Federal Register, July 25, 2025, document 2025-14089 (GovInfo). https://www.govinfo.gov/content/pkg/FR-2025-07-25/html/2025-14089.htm. Accessed November 12, 2026.

[602] FDA, "Human Foods Program 2026 Priority Deliverables," content current as of February 10, 2026. https://www.fda.gov/about-fda/human-foods-program/human-foods-program-2026-priority-deliverables. Accessed November 12, 2026.

[603] HHS and USDA, RealFood.gov (Dietary Guidelines website). https://realfood.gov/. Accessed November 12, 2026.

[604] FDA, "Human Foods Program 2026 Priority Deliverables," content current as of February 10, 2026. https://www.fda.gov/about-fda/human-foods-program/human-foods-program-2026-priority-deliverables. Accessed November 12, 2026.

8. Federal rules versus state rules

The proposal. Either let states keep passing their own food laws, or have Congress set one national standard that overrides them, called preemption.

Who backs each side. States like California, West Virginia and Texas have passed their own laws. Food industry groups have pushed back against state rules in court. Four trade associations won a preliminary injunction against the Texas warning-label law in February 2026.[605]

The case for state laws. States can act faster when they think federal rules are too weak, and they serve as testing grounds. West Virginia, for example, set a 2028 date to remove synthetic dyes from all food sold in the state, ahead of any federal ban.[606]

The case for one national rule. Companies sell across state lines, and 50 different rules can raise costs and confuse shoppers. The 2016 bioengineered food law is an example. A food law attorney writing in Packaging Digest in September 2016 explained that "this new federal law also preempts state laws," which "effectively put the kibosh on Vermont's law" requiring GMO labels.[607]

Questions worth asking

If you want to weigh in on any of these debates, by voting, calling an elected official or commenting on a federal rule, here are questions that get past slogans.

1. **What problem does this fix, and how do we know?** A good answer points to data, such as GAO's inspection numbers or the CDC's illness estimates, not just a story.[608,609]

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[605] Covington and Burling LLP, "Court Enjoins Texas SB 25 Food Label Warning Requirement," February 12, 2026 (law firm analysis). https://www.cov.com/en/news-and-insights/insights/2026/02/court-enjoins-texas-sb-25-food-label-warning-requirement. Accessed November 12, 2026.

[606] Office of the Governor of West Virginia, "Governor Patrick Morrisey Signs Food Dye Legislation Into Law," March 24, 2025. https://governor.wv.gov/article/governor-patrick-morrisey-signs-food-dye-legislation-law. Accessed November 12, 2026.

[607] George Misko, "Federal genetically modified labeling standard preempts state laws," Packaging Digest, September 7, 2016 (law firm author). https://www.packagingdigest.com/regulations-standards/federal-genetically-modified-labeling-standard-preempts-state-laws. Accessed November 12, 2026.

[608] GAO, "Food Safety: FDA Should Strengthen Inspection Efforts to Protect the U.S. Food Supply," GAO-25-107571, January 8, 2025. https://www.gao.gov/products/gao-25-107571. Accessed November 12, 2026.

2. **What does it cost, and who pays?** More inspections cost money. New labels cost companies money, which may show up in prices. Doing nothing has costs too: the USDA's Economic Research Service puts the yearly cost of foodborne illness at $74.7 billion in 2023 dollars.[610]
3. **Who enforces it?** A rule with no one checking it is a suggestion. Ask which agency, with what staff.
4. **Is it voluntary or required?** Several recent actions, like the dye phase-out and the "Product of USA" claim, rest on voluntary steps by companies.[611,612] That can work, but it is a different promise than a ban or a mandate.
5. **What happens if a court strikes it down?** The Texas warning-label law and the GRAS proposal both face legal questions.[613,614]
6. **How will we know if it worked?** Ask what will be measured, and when. With FoodNet reporting now optional for most germs, that question matters more.[615]

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[609] Centers for Disease Control and Prevention (CDC), "Estimates: Burden of Foodborne Illness in the United States," last updated March 19, 2025. https://www.cdc.gov/food-safety/php/data-research/foodborne-illness-burden/index.html. Accessed November 12, 2026.

[610] USDA Economic Research Service (ERS), "Cost Estimates of Foodborne Illnesses," updated June 16, 2026. https://www.ers.usda.gov/data-products/cost-estimates-of-foodborne-illnesses/. Accessed November 12, 2026.

[611] FDA, "HHS, FDA to Phase Out Petroleum-Based Synthetic Dyes in Nation's Food Supply," press release, April 22, 2025. https://www.fda.gov/news-events/press-announcements/hhs-fda-phase-out-petroleum-based-synthetic-dyes-nations-food-supply. Accessed November 12, 2026.

[612] USDA FSIS, "Voluntary Labeling of FSIS-Regulated Products with U.S.-Origin Claims," final rule March 18, 2024, docket FSIS-2022-0015. https://www.fsis.usda.gov/policy/federal-register-rulemaking/federal-register-rules/voluntary-labeling-fsis-regulated. Accessed November 12, 2026.

[613] Covington and Burling LLP, "Court Enjoins Texas SB 25 Food Label Warning Requirement," February 12, 2026 (law firm analysis). https://www.cov.com/en/news-and-insights/insights/2026/02/court-enjoins-texas-sb-25-food-label-warning-requirement. Accessed November 12, 2026.

[614] Todd A. Harrison, "New Details Emerge on FDA's GRAS Rulemaking," Venable LLP, July 16, 2026 (law firm analysis). https://www.venable.com/insights/publications/2026/07/new-details-emerge-on-fdas-gras-rulemaking. Accessed November 12, 2026.

[615] CDC, "About FoodNet," last reviewed April 28, 2026. https://www.cdc.gov/foodnet/about/index.html. Accessed November 12, 2026.

How to comment on a federal rule

Anyone can comment on a proposed federal rule. Proposed rules are published in the Federal Register with a docket number and a deadline. For example, the GRAS proposal is docket FDA-2025-N-3262, with comments due December 9, 2026.[616,617] [I did not check the step-by-step comment instructions on Regulations.gov for this book.] Agencies are expected to consider the comments they receive before they write a final rule. A comment that gives facts, data or a specific example usually carries more weight than one that only states an opinion. [That last point is my advice, not an agency rule.]

Where this leaves you

None of these choices is purely scientific. Each involves tradeoffs between safety and cost, between federal and state power, and between government rules and personal choice. The evidence can tell you what is known and what is not. It cannot tell you how to weigh those tradeoffs. That part is up to voters and the people they elect.

Appendices

Appendix A: Label Words Glossary

Definitions current as of November 12, 2026. Where a word has no legal definition, I say so.

This glossary covers the words you are most likely to see on a package. For each one I tell you whether it has a legal meaning, who sets it, and where in this book to read more.

Common label words and their legal status, as of November 12, 2026.

Word or phrase	Legal meaning?	What it means	Chapter
Added sugars	Yes (FDA)	Sugars added during processing, including table sugar, syrups and honey, listed in grams and as a percent of the Daily Value on the Nutrition Facts label.[618]	6

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[616] FDA, "Generally Recognized as Safe (GRAS)," content current as of August 10, 2026. https://www.fda.gov/food/food-ingredients-packaging/generally-recognized-safe-gras. Accessed November 12, 2026.

[617] Bailee Henderson, "FDA Proposes Mandatory GRAS Notifications for Ingredients Introduced to U.S. Food Supply," Food Safety Magazine, August 10, 2026. https://www.food-safety.com/articles/11713-fda-proposes-mandatory-gras-notifications-for-ingredients-introduced-to-us-food-supply. Accessed November 12, 2026.

[618] FDA, "Changes to the Nutrition Facts Label," content current as of March 28, 2024. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/changes-nutrition-facts-label. Accessed November 12, 2026.

Word or phrase	Legal meaning?	What it means	Chapter
Best if Used By	No federal requirement	A quality date. USDA says it "is not a purchase or safety date."[619]	8
Bioengineered	Yes (USDA)	A food that contains detectable genetic material changed through lab techniques that could not be gotten through ordinary breeding or found in nature. Shown as text, a symbol, a digital link or a text message option.[620]	7
Contains (allergen statement)	Yes (FDA)	Names any of the nine major food allergens in the food: milk, eggs, fish, crustacean shellfish, tree nuts, peanuts, wheat, soybeans and sesame.[621]	9
Daily Value (%DV)	Yes (FDA)	How much of a day's worth of a nutrient one serving provides, based on a 2,000-calorie diet.[622]	6
GRAS	Yes (FDA)	"Generally recognized as safe." An ingredient that qualified experts agree is safe for its intended use, which can be used without FDA premarket approval.[623]	10
Healthy	Yes (FDA)	A nutrient content claim with limits on saturated fat, sodium and added sugars and requirements for food groups, under a	7

[619] USDA FSIS, "Food Product Dating" (no date shown on page). https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/food-product-dating. Accessed November 12, 2026.

[620] USDA AMS, "BE Disclosure" (National Bioengineered Food Disclosure Standard). https://www.ams.usda.gov/rules-regulations/be. Accessed November 12, 2026.

[621] FDA, "Food Allergies: What You Need to Know," content current as of August 16, 2024. https://www.fda.gov/food/buy-store-serve-safe-food/food-allergies-what-you-need-know. Accessed November 12, 2026.

[622] FDA, "Changes to the Nutrition Facts Label," content current as of March 28, 2024. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/changes-nutrition-facts-label. Accessed November 12, 2026.

[623] FDA, "Understanding How the FDA Regulates Food Additives and GRAS Ingredients," content current as of June 6, 2024. https://www.fda.gov/food/food-additives-and-gras-ingredients-information-consumers/understanding-how-fda-regulates-food-additives-and-gras-ingredients. Accessed November 12, 2026.

Word or phrase	Legal meaning?	What it means	Chapter
		rule finalized in December 2024.[624]	
Made with organic	Yes (USDA)	At least 70 percent organic ingredients.[625]	7
May contain	No federal definition	A voluntary warning about possible cross-contact with an allergen. [Not verified on an FDA page.]	9
Natural (FDA foods)	Policy, not a rule	FDA policy: nothing artificial or synthetic added that would not normally be expected in the food. Not about farming methods.[626]	7
No artificial colors	FDA enforcement policy	Since February 2026, the FDA says it will not object if the food has no petroleum-based colors.[627]	11
Organic	Yes (USDA)	At least 95 percent organic ingredients. "100 percent organic" means all ingredients are organic.[628]	7
Product of USA (meat)	Yes (USDA)	For meat, poultry and egg products under FSIS, the product must be "derived from animals born, raised, slaughtered, and processed in the United States."	7

[624] FDA, "FDA Finalizes Updated 'Healthy' Nutrient Content Claim," constituent update, December 19, 2024, content current as of February 24, 2025. https://www.fda.gov/food/hfp-constituent-updates/fda-finalizes-updated-healthy-nutrient-content-claim. Accessed November 12, 2026.

[625] USDA Agricultural Marketing Service (AMS), "Labeling Requirements for the U.S. Organic Market," last updated June 2026. https://www.ams.usda.gov/services/organic-certification/international-trade/labeling-requirements-US-organic-market. Accessed November 12, 2026.

[626] FDA, "Use of the Term Natural on Food Labeling," content current as of October 22, 2018. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/use-term-natural-food-labeling. Accessed November 12, 2026.

[627] FDA, "FDA Takes New Approach to 'No Artificial Colors' Claims," press release, February 5, 2026. https://www.fda.gov/news-events/press-announcements/fda-takes-new-approach-no-artificial-colors-claims. Accessed November 12, 2026.

[628] USDA Agricultural Marketing Service (AMS), "Labeling Requirements for the U.S. Organic Market," last updated June 2026. https://www.ams.usda.gov/services/organic-certification/international-trade/labeling-requirements-US-organic-market. Accessed November 12, 2026.

Word or phrase	Legal meaning?	What it means	Chapter
		Voluntary; compliance required from January 1, 2026.[629]	
Sell By	No federal requirement	A date for the store's stock control, not for safety.[630]	8
Serving size	Yes (FDA)	Based on "amounts of foods and beverages that people are actually eating, not what they should be eating."[631]	6
Use By	No federal requirement, except infant formula	A quality date, "not a safety date except for when used on infant formula."[632]	8

Appendix B: How to Check Whether a Food Has Been Recalled

Websites and steps current as of November 12, 2026.

A food recall is when a company takes a product off the market because it may be unsafe or mislabeled. The FDA says recalls "may be initiated voluntarily by a company, or at the

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[629] USDA FSIS, "Voluntary Labeling of FSIS-Regulated Products with U.S.-Origin Claims," final rule March 18, 2024, docket FSIS-2022-0015. https://www.fsis.usda.gov/policy/federal-register-rulemaking/federal-register-rules/voluntary-labeling-fsis-regulated. Accessed November 12, 2026.

[630] USDA FSIS, "Food Product Dating" (no date shown on page). https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/food-product-dating. Accessed November 12, 2026.

[631] FDA, "Changes to the Nutrition Facts Label," content current as of March 28, 2024. https://www.fda.gov/food/nutrition-food-labeling-and-critical-foods/changes-nutrition-facts-label. Accessed November 12, 2026.

[632] USDA FSIS, "Food Product Dating" (no date shown on page). https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/food-product-dating. Accessed November 12, 2026.

request of the FDA."[633] Since 2011, the FDA also has the power to order a recall when a company refuses to recall a food after being asked (Chapter 5).[634]

Where to look

What you bought	Where to check
Any food	Recalls.gov, a site that brings together recalls from six federal agencies.[635]
Most packaged food, produce, seafood, dairy, shell eggs, pet food	The FDA's recalls page, linked from Recalls.gov.[636]
Meat, poultry, processed egg products, catfish	USDA's FSIS recall page, linked from Recalls.gov.[637]
Illness outbreaks linked to food	The CDC's outbreak pages, which list current investigations. [638]

Step by step

1. Find the product name, size, lot code or "best by" date, and any plant number on the package. Recall notices list these details so you can match them.
2. Search the agency's recall page for the brand or product name.
3. Compare the lot code and date on your package with the ones in the notice. A recall usually covers only certain lots.

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[633] FDA, "FDA 101: Product Recalls," content current as of May 13, 2025. https://www.fda.gov/consumers/consumer-updates/fda-101-product-recalls. Accessed November 12, 2026.

[634] FDA, "Background on the FDA Food Safety Modernization Act (FSMA)," content current as of January 30, 2018. https://www.fda.gov/food/food-safety-modernization-act-fsma/background-fda-food-safety-modernization-act-fsma. Accessed November 12, 2026.

[635] FDA, "FDA 101: Product Recalls," content current as of May 13, 2025. https://www.fda.gov/consumers/consumer-updates/fda-101-product-recalls. Accessed November 12, 2026.

[636] FDA, "FDA 101: Product Recalls," content current as of May 13, 2025. https://www.fda.gov/consumers/consumer-updates/fda-101-product-recalls. Accessed November 12, 2026.

[637] USDA Food Safety and Inspection Service (FSIS), home page, "Food Safety Facts." https://www.fsis.usda.gov/. Accessed November 12, 2026.

[638] CDC, "Active Investigations of Multistate Foodborne Outbreaks," page last updated May 8, 2024. https://www.cdc.gov/foodsafety/outbreaks/lists/active-investigations.html. Accessed November 12, 2026.

4. If your product matches, do not eat it. Follow the notice. Most notices say to throw the product away or return it to the store for a refund.
5. Clean any surfaces or containers that touched the product.
6. If you or someone in your home feels sick after eating a recalled food, call your doctor and say what you ate.

What the recall classes mean

FDA recall classes, as of March 20, 2026.[639]

Class	Meaning
Class I	The most serious. A "reasonable probability" that the product "will cause serious adverse health consequences or death."
Class II	The product "may cause temporary or medically reversible adverse health consequences," or serious harm is unlikely.
Class III	The product "is not likely to cause adverse health consequences."

Appendix C: Timeline of U.S. Food Safety

Events through November 12, 2026.

Key events in U.S. food safety, 1858 to November 12, 2026.

Year	Event	Source
1858	Frank Leslie's Illustrated Newspaper exposes "swill milk" in New York.	Smithsonian[640]
1879	First broad federal food bill introduced in Congress. Nearly 100 more follow before 1906.	FDA[641,642]
1883	Harvey W. Wiley becomes chief chemist of the	FDA[643]

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[639] FDA, "Recalls Background and Definitions," content current as of March 20, 2026. https://www.fda.gov/safety/industry-guidance-recalls/recalls-background-and-definitions. Accessed November 12, 2026.

[640] "The Surprisingly Intolerant History of Milk," Smithsonian Magazine (no byline or date shown on the page). https://www.smithsonianmag.com/history/surprisingly-intolerant-history-milk-180969056/. Accessed November 12, 2026.

[641] James Harvey Young, "The Long Struggle for the Law," published by FDA, content current as of February 6, 2018. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/long-struggle-law. Accessed November 12, 2026.

[642] FDA, "Part I: The 1906 Food and Drugs Act and Its Enforcement," April 24, 2019. https://www.fda.gov/about-fda/changes-science-law-and-regulatory-authorities/part-i-1906-food-and-drugs-act-and-its-enforcement. Accessed November 12, 2026.

Year	Event	Source
	Department of Agriculture.	
1898	"Embalmed beef" charges during the Spanish-American War. A commission later finds the charge was not substantiated.	American Heritage[644]
1902	Congress gives Wiley's bureau $5,000 to study preservatives and colors. The "Poison Squad" begins.	FDA[645]; Library of Congress[646]
1905	The Jungle runs as a serial in Appeal to Reason.	History.com[647]
1906	June 30: Pure Food and Drugs Act and Meat Inspection Act signed.	FDA[648]
1912	Wiley leaves government.	FDA[649,650]

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Year	Event	Source
1930	The regulatory agency is renamed the Food and Drug Administration.	FDA[651]
1937	Elixir Sulfanilamide kills more than 100 people.	FDA[652]
1938	June 25: Federal Food, Drug, and Cosmetic Act signed.	FDA[653]
1958	Food Additives Amendment, including the Delaney Clause and the GRAS exception.	FDA[654]
1959	Cranberry scare weeks before Thanksgiving.	FDA[655]; History.com[656]
1960	Color Additive Amendment.	FDA[657]
1969	President Nixon orders a review of the GRAS list after the FDA bans cyclamate.	FDA[658]

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Year	Event	Source
1990	Nutrition Labeling and Education Act.	FDA[659]
1993	E. coli O157:H7 outbreak linked to fast-food hamburgers in four Western states.	CDC[660]
1994	FSIS declares E. coli O157:H7 an adulterant in raw ground beef.	FSIS[661]
1996	CDC PulseNet laboratory network begins.	CDC[662]
2004	Food Allergen Labeling and Consumer Protection Act names eight major allergens.	FDA[663]
2008	Farm bill moves catfish inspection to USDA.	CRS[664]
2008-2009	Peanut Corporation of America Salmonella outbreak.	CDC[665]
2011	January 4: FDA Food Safety Modernization Act signed.	FDA[666]

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Year	Event	Source
2016	Updated Nutrition Facts label; national bioengineered food labeling law; National Academies GE crops report.	FDA[667]; USDA[668]; NASEM[669]
2021	April 23: FASTER Act makes sesame the ninth major allergen, effective January 1, 2023.	FDA[670]
2022	Abbott infant formula recall (February 17) and nationwide shortage.	FDA[671]
2024	July 3: FDA ban on brominated vegetable oil takes	FDA[672,673]; CDC[674]

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Year	Event	Source
	effect. December: "healthy" rule finalized. Deli meat Listeria outbreak linked to a Boar's Head recall.	
2025	January 16: Red No. 3 revoked. February: food program staff cuts; Jim Jones resigns. April: phase-out plan for synthetic dyes; FSIS withdraws Salmonella framework.	FDA[675,676]; Food Safety Magazine[677]; Federal Register[678]
2025	November: ByHeart infant formula botulism outbreak and recall.	CDC[679]
2026	January 7: 2025-2030 Dietary Guidelines released.	HHS[680]; FDA[681,682]

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Year	Event	Source
	August 10: FDA proposes mandatory GRAS notification. September 8: Orange B revocation takes effect.	

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