

Value Meal: The Benefits of Organic Beef Production

The Organic Beef Report Executive Summary



We commissioned this illustration from artist Fumi Mini Nakamura. Read on for her complete illustration depicting the differences between factory farm, industrial organic, and authentic organic beef.

cornucopia.org

608.637.8278

cultivate@cornucopia.org

Copyright © 2022, The Cornucopia Institute

February 2022

INTRODUCTION

US-Americans eat an enormous amount of beef.^{1,2}

In 1976, US-Americans consumed nearly 89 pounds of beef per person annually. We are currently down to about 55 pounds per person, yet the US still ranks second in the world for beef consumption (Argentina ranks first).^{3,4}

Who raises all that beef? The lone cowboy watching over his herd of cattle is a mere myth:⁵ Over 70% of US cattle (both beef and dairy) live on factory farms.⁶

Operations with 100 or more cattle account for 9.9% of all beef operations but 56% of the beef cattle inventory.⁷ While smaller beef producers make up a significant majority of total beef producers, large producers still dominate the supply chain.

The majority of *organic* beef comes from smaller producers. The organic marketplace offers a better markup for community-scale producers who are dedicated to authentic pasturing. As of 2019, 41,780 beef cows were certified organic in the US, up from just over 6,200 in 2012 (but still a fraction of the more than 32 million conventional beef cows in 2019).^{8,9,10}

The rise of organic — along with grass-fed, 100% grass-fed, and regenerative organic — as an alternative to industrial beef has been propelled by health and ethical concerns.

Consumers are supporting production systems that meet their expectations for climate health, environmental impact, animal welfare, and nutrition. While the spectrum of beef production is wide and confusing, the good news is that consumer demand is shaping the marketplace.

This report, along with Cornucopia’s Organic Beef Scorecard, serves as a call to action to support ethical, organic beef producers and secure their essential role in the marketplace as an alternative to industrial beef. The Organic Beef Report Executive Summary covers:

- The differences between organic and grass-fed beef
- “Beef finishing” — the period when cattle are fattened for slaughter
- Health wins of organic beef
- What the rules and regulations dictate
- The stakes for animal welfare, the environment, and climate change
- What you can do



Ninety-nine percent of all meat produced in the US comes from factory farms, including over 70% of cattle (both beef and dairy)

WHAT IS ORGANIC BEEF?

The organic label is unique and more trustworthy than other labels due to federal regulations. In order to carry the seal, beef producers must meet minimum benchmarks outlined in the organic rules and regulations.

Authentic organic producers go above and beyond the regulatory floor to fulfill the true intent of the organic label — matching consumer expectations for ethical, organic beef.



Deciphering Labels: How do Organic and Grass Fed Compare?

While both “USDA certified organic” and “grass-fed beef” offer important benefits compared to beef from cows confined to a feedlot, these two labels are significantly different. The certified organic beef label is the most regulated in the meat case. Unlike “grass-fed” or “natural” beef, organic beef comes with specific, legally defined guarantees for how the animals were raised and finished.

Federal law prohibits the use of growth hormones, antibiotics, and other synthetic chemicals in organic cattle production. Organic cattle must be raised on land and feed that are certified organic, without the environmental burden of synthetic fertilizers and pesticides. In contrast to conventional

confinement operations, organic beef producers must pasture their animals for at least 120 days during the grazing season.¹¹ Accordingly, **all authentic organic beef is grass fed**, but not necessarily 100% grass fed.

If beef is certified organic *and* 100% grass fed, the cattle are finished on pasture during the grazing season and may receive supplemental forage, such as organic hay. Meat from 100% grass-fed cattle is typically leaner, and it takes much longer for “grass finished” cattle to reach slaughter weight.¹² More time means more animal care which equals more costs for the rancher.

Health Wins of Organic Beef

When it comes to health, the source of the beef matters! Though more studies comparing conventional and organic systems are needed, current research shows important differences in the organic and conventional beef on retail shelves.

NUTRITION

A high percentage of green forage in an animal's diet imparts higher levels of anti-inflammatory omega-3 fatty acids in the meat (often lacking in standard US-American diets). Animals grazed on fresh green forage also produce beef with more conjugated linoleic acids, as compared to beef from animals fed stored hay or, worse, grain.^{13,14} Organic and 100% grass-fed beef generally boasts the highest levels of these beneficial fatty acids.

A 2019 study tested the difference in bioactive compounds present in organic and conventional beef sold at retail.¹⁵ The organic beef had 17% less cholesterol, 32% less fat, 16% less fatty acids, and 24% less monounsaturated fatty acids. The organic beef also outperformed conventional, with 170% more alpha-linolenic acid, 24% more vitamin E, 53% more beta-carotene, 34% more coenzyme Q10 (an antioxidant), and 72% more taurine (an amino acid).

FOOD SAFETY

Organic beef is safer to consume than conventional beef.

Conventional (non-organic) operations often resort to antibiotics for “disease prevention” — even in the absence of ill animals — sidestepping a 2017 ban on antibiotic use to speed the growth of livestock. Overuse of antibiotics in the food system has resulted in antibiotic-resistant disease and may contribute to poor digestive health in humans.¹⁶

Conventional systems also use pesticides and herbicides, while USDA certified organic cattle must be fed entirely on certified organic feed, including the pastures on which the cattle graze.

Certified organic meat is also less likely to be contaminated with dangerous bacteria¹⁷, according to new research from Johns Hopkins Bloomberg School of Public Health. Products that carry both the

HEALTH HAZARDS: INDUSTRIAL BEEF



Pharmaceuticals administered to cattle pose a direct health risk to humans and contribute to drug resistance



Pollution of air, water, and land poses serious risks to human health — especially to sensitive populations



Synthetic fertilizers and pesticides used to grow cattle feed pollute wells and groundwater and can leave residues in meat

USDA organic seal *and* the 100% grass-fed label offer compelling health and food safety benefits. In tandem, these labels ensure optimal nutrition and prevent exposure to agrichemicals, antibiotics, and growth hormones.

What the Rules and Regulations Dictate

The organic rules and standards dictate the minimum requirements an organic producer must meet to carry the organic seal on their label.¹⁸ This regulatory floor is defined by the Organic Foods Production Act of 1990 (OFPA).

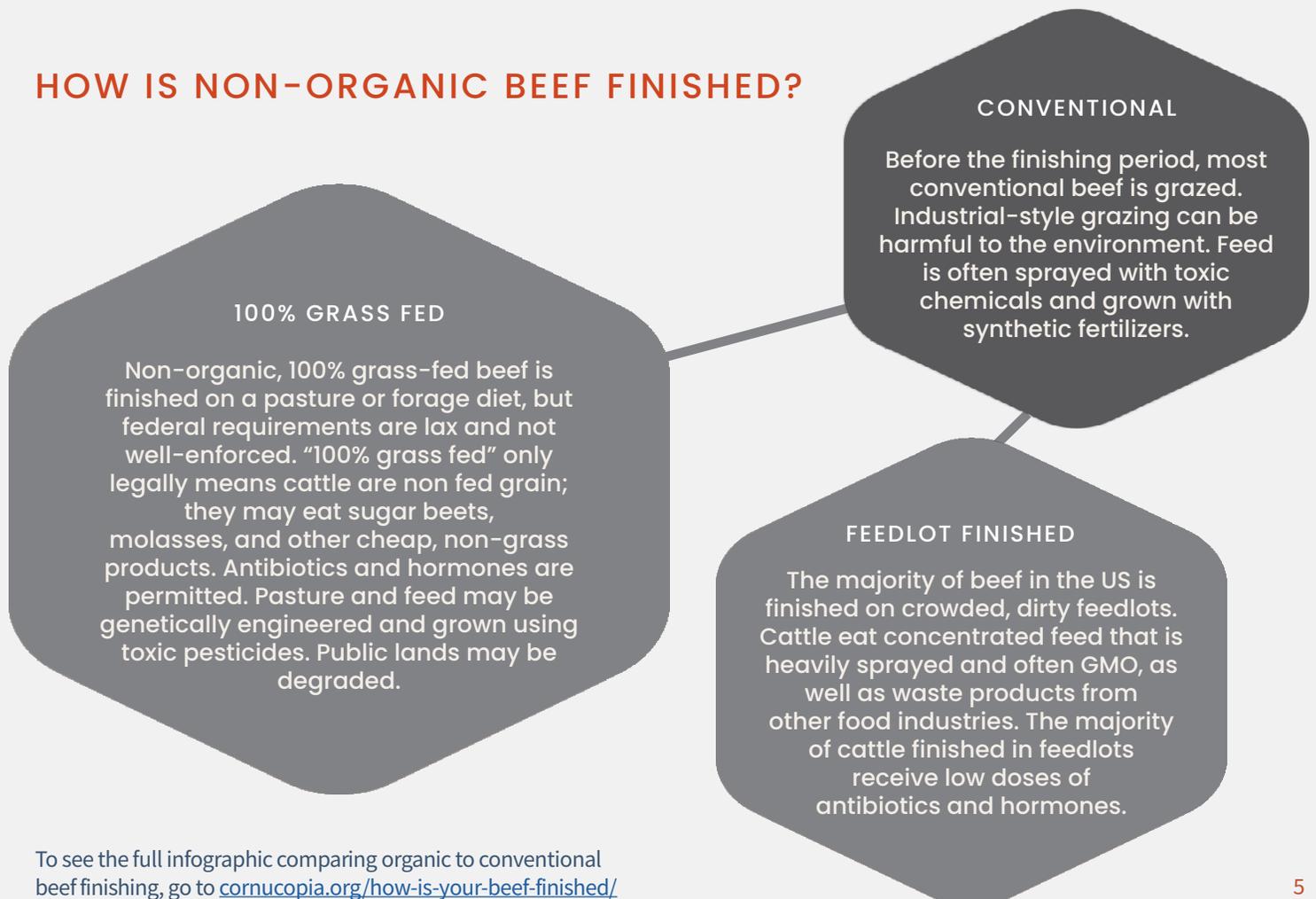
Additional rules and regulations, created by the USDA's National Organic Program (NOP) with public input, add clarity and address inconsistencies across the industry. Some of these dictate how organic beef must be raised, processed, and labeled.

These standards form a regulatory floor that differentiates organic beef from conventional (non-organic) beef.

The rules and regulations stipulate that organic beef cattle:¹⁹

- Cannot be genetically modified or fed GMO feed.²⁰
- Cannot be produced with growth promoters or hormones.²¹
- Cannot receive synthetic antibiotics or routine applications of synthetic internal parasiticides.²²
- Cannot receive medication in the absence of illness (other than vaccines, some of which are allowed).²³
- Must be provided with year-round access to the outdoors, shade, shelter, exercise areas, fresh air, clean drinking water, and direct sunlight.²⁴ Their living conditions must also accommodate their health and natural behaviors (such as the ability to graze on pasture).
- Must be fed 100% organic feed²⁵ and meet the requirements of the "Pasture Rule."²⁶

HOW IS NON-ORGANIC BEEF FINISHED?



To see the full infographic comparing organic to conventional beef finishing, go to cornucopia.org/how-is-your-beef-finished/

Animal Welfare

Even though practices vary within the organic label, *all* organic beef production offers better animal welfare than industrialized cattle management.

Authentic organic producers graze their beef cattle from weaning to slaughter. Some provide a grain supplement, while others finish their beef entirely on grass. Grazing improves the animals' physical health, and socialization with the herd contributes to their overall well-being.

The organic standards also offer a minimum baseline for animal care that cannot be provided in crowded, manure-laden, conventional industrialized feedlots. These standards require year-round living conditions that accommodate the health and natural behavior of cattle.

When compared to conventional industrialized beef production, the difference is clear.

Environmental Considerations

The majority of US beef production harms the environment. This beef is produced with substantial subsidies and at enormous – often obscure – cost to the general public.²⁷ The food produced by industrial beef operations remains cheap because the communities and ecosystems in which they operate pick up the rest of the tab.

Industrialized beef production contributes significantly to climate change, due to emissions from feed production, manure storage, transportation, and cattle themselves.²⁸ Meat and carcass processing and land use impact water consumption and climate change. Some brands ship meat overseas for further processing, adding to that food's hidden cost.

The most significant contributor to emissions is feed production and feed processing, which includes the manufacture and use of synthetic fertilizers. The cattle are the next biggest producers of emissions due to their digestive process and off-gassing from their waste.²⁹

ANIMAL WELFARE: INDUSTRIAL BEEF



Cattle are kept in dirty, crowded conditions throughout production and prevented from exhibiting natural behaviors



High-stress living conditions and unnatural diets contribute to disease and poor welfare

ENVIRONMENTAL IMPACT: INDUSTRIAL BEEF



The global livestock industry is a significant contributor to human-induced greenhouse gas emissions



Manure acts as a source of both methane and nitrous oxide – both potent greenhouse gases

Climate and Ecosystem Health

The current organic standards include only general requirements for supporting soil health, rotational grazing, or cover cropping. While care for the environment is implied and referenced throughout, individual farmers may work to sequester carbon – or not. Beef production management styles can vary to a surprising degree, even among certified organic farms.

Some non-organic farms describe their practices as “regenerative,” even while they use conventional pesticides that damage parts of the soil (and human!) microbiome. This is conventional farming with only one or two regenerative practices, and it carries many of the pitfalls of other conventional farming techniques.

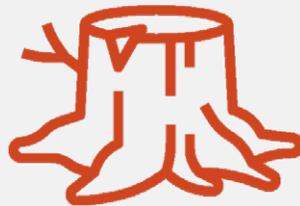
Some organic producers go beyond the minimum organic standards in their care for cattle and the environment. Superior benefits to land and climate come when producers use combinations of regenerative organic practices – referred to as “stacked” practices – mimicking complex ecosystems. These practices include rotational grazing, nutrient and water recycling, encouraging biodiversity in the soil and among plants and animals, cover cropping and rotational planting, and no-till.

Careful management of pastures and animals can help foster, rather than harm, climate and ecosystem health. Certified organic beef produced in a regenerative system is a high-value product and is often 100% grass fed.

CLIMATE AND ECOSYSTEM IMPACT: INDUSTRIAL BEEF



Nutrient overload and chemical contamination damage aquatic ecosystems



The climate cost of feed production includes encroachment on natural areas, the manufacture and use of fertilizers and pesticides, and feed transportation and processing



Wildlife populations are plummeting where habitat is destroyed to raise cattle and grow their feed

WHAT YOU CAN DO

Your food choices matter. But your impact on the food system doesn't end there.

Think of that purchase as an entry point into a complex ecosystem of animals, people, and plants. Long before that steak shows up in your kitchen, organic farmers are tending healthy fields of deep-rooted perennial grasses and legumes. Before those farmers purchase their first organic cow, policymakers determine the systems, infrastructures, and programs that support or, as is often the case with organic farming, complicate the path to regenerative organic farming. Understanding these systems is an important step in figuring out the role you can play in helping to change them.

If you'd like to ensure more of the profit gets to the people who raised the animal, look for organic, grass-fed beef near you at your local farmers market, independent retailers, and food cooperatives or by checking localharvest.org and eatwild.com. Every farmer and rancher is an important part of the local economy that includes local processors, agricultural supply stores, veterinarians, and more.

Ask your local organic beef producer how they raise and finish their cattle, how they care for their pastures and wildlife, and whether income covers production costs. Conversations about the high cost of authentic organic beef rarely factor in the hefty investments those farmers make in their local environment and regional food communities.

Our support of community-scale farmers ensures a fair market for organic agriculture, one in which farmers considering or maintaining organic certification have a sustained shot at adhering to organic ideals without having to sacrifice their mental, physical, or financial health.

Learn more about the choices in your region and investigate national brands by using Cornucopia's Organic Beef Scorecard (see below).³⁰

Consider prioritizing quality over quantity. When beef is viewed as an occasional purchase instead of a staple, your dollars can be freed up to support authentic organic producers.

Together, those dollars make a difference. Investing in the superior management practices of authentic organic beef producers diverts money from factory farms to producers who deserve our support.

The industrialization of beef relies on inhumane animal care, environmental abuses, and misleading marketing tactics. The scope of harm is daunting. Yet it underscores the importance of protecting and supporting the choices we can feel good about. Your food dollars serve as an investment in legitimate organic agriculture, as well as our collective health and the future of the planet.

Cornucopia's Organic Beef Scorecard

Finding ethical brands requires homework. [Cornucopia's Organic Beef Scorecard](#) can help!³¹ Surveying more than 200 organic beef producers and brands, the mobile-friendly tool points consumers to brands they can trust and those to avoid.

ENDNOTES

1. Lynne Curry. July 30, 2019. "Is The Movement To Eat Less Meat Actually Making A Difference?" https://www.huffpost.com/entry/eat-less-meat-environmental-effect_l_5d39d84fe4b020cd99501f2d
2. Eliza Barclay. June 27, 2012. "A Nation Of Meat Eaters: See How It All Adds Up." Morning Edition, NPR.com. <https://www.npr.org/sections/thesalt/2012/06/27/155527365/visualizing-a-nation-of-meat-eaters>
3. OECD website. 2021. "Meat consumption Beef and veal, Kilograms/capita, 2021." Accessed February 7, 2022. <https://data.oecd.org/chart/6pfu>
4. United States Department of Agriculture, Economic Research Service website. July 21, 2021. "Food Availability (Per Capita) Data System." Accessed January 28, 2022. <https://www.ers.usda.gov/data-products/food-availability-per-capita-data-system/>
5. History.com Editors. October 10, 2019. "Cowboys." History.com. <https://www.history.com/topics/westward-expansion/cowboys>
6. Note: This source gets to this number using data from the 2017 USDA Census of Agriculture. Matthew Zampa. April 16, 2019. "99% of U.S. Farmed Animals Live on Factory Farms." Sentient Media. <https://sentientmedia.org/u-s-farmed-animals-live-on-factory-farms/>
7. United States Department of Agriculture, Economic Research Service. 2020. "Sector at a Glance." Accessed July 28, 2020. <https://www.ers.usda.gov/topics/animal-products/cattle-beef/sector-at-a-glance/>
8. United States Department of Agriculture, National Agricultural Statistics Service website. October 22, 2020. "2019 Organic Survey (2017 Census of Agriculture Special Study)." Accessed January 28, 2022. https://www.nass.usda.gov/Surveys/Guide_to_NASS_Surveys/Organic_Production/index.php
9. United States Department of Agriculture, National Agricultural Statistics Service. 2019. "Table 17. Certified Organic Livestock and Poultry Inventory and Sales: 201." Accessed January 28, 2022. https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/Organics/organics_1_017%20_017.pdf
10. USDA Economics, Statistics and Market Information System website. July, 2021. "Cattle." Accessed January 28, 2022. <https://usda.library.cornell.edu/concern/publications/h702q636h>
11. Marie Burcham. 2019. "The "Organic Pasture Rule": How the Law Sets Minimum Standards for Grazing." The Cornucopia Institute. https://www.cornucopia.org/2018/12/the-organic-pasture-rule-how-the-law-sets-minimum-standards-for-grazing/#_ftn1
12. See Daley C, Abbott A, Doyle P, Nader G, Larson S. March 10, 2010. "A review of fatty acid profiles and antioxidant content in grass-fed and grain-fed beef." Nutrition Journal, 9:10. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2846864/>
13. Daley C, Abbott A, Doyle P, Nader G, Larson S. March 10, 2010. "A review of fatty acid profiles and antioxidant content in grass-fed and grain-fed beef." Nutrition Journal, 9:10. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2846864/>
14. Van Elswyk M, McNeill S. January, 2014. "Impact of grass/forage feeding versus grain finishing on beef nutrients and sensory quality: the U.S. experience." Meat Sci., 96(1):535-40. Doi: 10.1016/j.meatsci.2013.08.010. <https://www.ncbi.nlm.nih.gov/pubmed/24018274>
15. Ribas-Agustí, A., Díaz, I., Sárraga, C., García-Regueiro, J. A., & Castellari, M. 2019. "Nutritional properties of organic and conventional beef meat at retail." Journal of the Science of Food and Agriculture, 99(9), 4218-4225. <https://pubmed.ncbi.nlm.nih.gov/30790287/>
16. Walter J. Armbruster and Tanya Roberts. May 30, 2018. "The Political Economy of US Antibiotic Use in Animal Feed." USDA, Economic Research Service, Center for Foodborne Illness Research and Prevention. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7123476/>
17. Johns Hopkins Bloomberg School of Public Health. May 12, 2021, "Organic Meat Less Likely To Be Contaminated with Multidrug-Resistant Bacteria, Study Suggests." <https://www.jhsph.edu/news/news-releases/2021/organic-meat-less-likely-to-be-contaminated-with-multidrug-resistant-bacteria-study-suggests.html>
18. 7 U.S. Code § 6509
19. USDA National Organic Program, Agricultural Marketing Service. July, 2013. "Organic Livestock Requirements." <https://www.ams.usda.gov/sites/default/files/media/Organic%20Livestock%20Requirements.pdf>
20. 7 U.S. Code § 6509(c)(3)
21. 7 U.S. Code § 6509(c)(3)
22. 7 U.S. Code § 6509(c)(3)
23. 7 U.S. Code § 6509(d)(1)
24. 7 CFR § 205.239(a)(1)
25. 7 CFR § 205.237(a)
26. Marie Burcham. December 5, 2018. "The "Organic Pasture Rule": How the Law Sets Minimum Standards for Grazing." The Cornucopia Institute. <https://www.cornucopia.org/2018/12/the-organic-pasture-rule-how-the-law-sets-minimum-standards-for-grazing/>
27. Marie Burcham. November 18, 2021. "Considering the True Cost of Industrial Beef." The Cornucopia Institute. <https://www.cornucopia.org/campaign/beef-campaign/the-price-we-pay/>
28. United Nations, Sustainable Development. 2019. "UN Report: Nature's Dangerous Decline 'Unprecedented'; Species Extinction Rates 'Accelerating'" <https://www.un.org/sustainabledevelopment/blog/2019/05/nature-decline-unprecedented-report/>
29. United Nations, Sustainable Development. 2019. "UN Report: Nature's Dangerous Decline 'Unprecedented'; Species Extinction Rates 'Accelerating'" <https://www.un.org/sustainabledevelopment/blog/2019/05/nature-decline-unprecedented-report/>
30. The Cornucopia Institute. 2022. "Organic Beef Scorecard." <https://www.cornucopia.org/scorecard/organic-beef-scorecard>
31. The Cornucopia Institute. 2022. "Organic Beef Scorecard." <https://www.cornucopia.org/scorecard/organic-beef-scorecard>