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The Benefits of Organic Meat

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Why is it important to choose organic meat?

When you eat meat, choosing organic is especially important, because meat production can have cascading effects on human health, animal welfare, and the environment. There is a long chain of resources that support the animals used for meat production. Choosing organic at the grocery store has an added value when it comes to supporting sustainable production, because you are not only ensuring that the animals are raised without synthetic chemicals and have high welfare standards, but also that all the food that animals eat comes from organic sources that support soil health and biodiversity.





This report synthesizes scientific literature that shows the differences in the way organic meat is produced, and why those differences are important for the health of the animals, the health and safety of consumers, the health of the soil and the impacts on climate change. Specifically, this report presents the different standards for organic meat production and how that may improve the nutritional value of organic meat, while simultaneously reducing exposure to antibiotics, growth hormones,

and pesticides. The report also shows how organic meat production has fewer negative effects on the off-farm environment and can help reduce impacts on climate change by storing more carbon in pasture, which offsets greenhouse gas emissions.

Putting the right kind of meat on the table can make a difference for your health, the health of your communities, and the environment. Make sure you choose organic!

What does “Organic” meat mean?

There are unique regulations that organic poultry and livestock farmers must follow to ensure organic meat is produced sustainably, with the health of the animals and the health of the consumers in mind. While there are many distinctions between USDA Organic and non-organic, the main differences are related to what the animals eat, where they spend their time, and how they are treated if/when they get sick. Here are the specifics:

Management of organic livestock

PASTURE ACCESS: Organic ruminant livestock, such as cattle, sheep, and goats, must be grazed throughout the entire grazing season—at least 120 days per calendar year. The pasture they are grazed on must be organically managed, so it can’t be sprayed with toxic synthetic pesticides or synthetic fertilizer. Pasture-based diets are important for animals, because more grass in the ruminants’ diet leads to more balance in gut microbes, less acidity in the rumen, which is the largest chamber to process roughages, and overall improved digestive health.

FEEDING AND GRAZING: The diet for organic livestock needs to be completely organic, meaning that it can’t contain growth promotants of any kind, antibiotics, genetically modified feeds or ingredients (GMOs), or slaughter by-products from mammals or birds. During the grazing season, organic ruminant livestock must get at least 30% of their diet from grazing on organic pasture.



LIVING CONDITIONS: In organic production, the animals' stage of life, the climate, and the environment need to be taken into consideration when providing year-round access to the outdoors. The outdoor environment must include shade, shelter, exercise areas, fresh air, clean water for drinking, and direct sunlight. Continuous total confinement of any animal indoors is prohibited. Yards, feeding pads, and feedlots may only be used to provide ruminants with access to the outdoors during the non-grazing season or for supplemental feeding during the grazing season.

ANIMAL HEALTH: On organic farms, preventive healthcare practices are used to deter illness. If those efforts fail, organic farmers can use other restricted medicines, but antibiotics and most synthetic chemicals are prohibited.

ENVIRONMENTAL HEALTH: Organic farmers and ranchers must use practices that minimize impacts to the environment surrounding the farm. They often recycle manure into crop and pasture production to help avoid nutrient runoff and increase carbon storage in their fields. They also use beneficial farming practices such as crop rotation and cover crops to maintain soil fertility and help protect soil and water quality. Organic production may also have a lower contribution to climate change by reducing greenhouse gas emissions. Synthetic fertilizers or pesticides— [one of the leading drivers of climate change within the agricultural sector](#), are prohibited in organic production.



Organic meat means:

- ✓ No antibiotics, synthetic growth hormones, GMOs, or pesticides
- ✓ The health and natural behavior of animals are prioritized
- ✓ All livestock feed must be 100% organically produced
- ✓ Cattle are pasture-raised and grazed throughout the grazing season
- ✓ Organic meat farmers use holistic, preventive health care practices
- ✓ Organic meat production helps protect the environment



Nutrition of Organic Meat

Meat can be a great source of [protein, fat, iron and vitamin D that are more readily available in meat than other food sources](#).

But not all meat is created equal. Organic ruminant meat like beef, lamb, and goat, can contain more of the good omega-3 fatty acids, less cholesterol, and more antioxidants than non-organic ruminants, because organic regulations require the animals to graze on certified organic pasture throughout the entire grazing season for the geographic region.

Organic ruminant meat may have more healthful fat

The diet of the grazing animals, especially the amount of grass, can change the type of fat in the meat. Eating organic beef, lamb, or goat may supplement the heart-healthy omega-3 fatty acids in your diet. [A large scale](#) review of 67 studies on the nutritional profile of organic meat in the European Union (EU) shows that organic meat contains nearly 50% higher levels of beneficial omega-3 fatty acids than non-organic meat due to required grazing and feeding practices. While research in the United States (US) is limited on the nutritional content of organic meat (and some aspects of the organic standards are different between the EU and the US), this study is encouraging, because it shows that focusing on pasture can amplify omega-3 fatty acids in meat.

Because our bodies don't produce omega-3 and omega-6 fatty acids, it is essential for us to obtain them through our diets.

However, [we need to have a healthy balance of the two omega fatty acids – with a ratio of about 1:1 \(Omega-6 : Omega-3\)](#). Unfortunately, the [typical western diet results in ratios closer to 15:1](#). This bombardment of high omega-6 levels and low omega-3 levels has been linked with several common diseases such as [cardiovascular disease, asthma, osteoporosis, breast cancer, prostate cancer, and inflammatory and autoimmune diseases](#). Organic beef and lamb may be helpful with a diet focused on balancing that ratio.

Organic beef can also have lower cholesterol and fat. [One study](#) from Spain found organic beef had 17% less cholesterol, 32% less fat depending on the beef cut, 16% fewer fatty acids, and 24% fewer monounsaturated fatty acids than its conventional counterpart. Researchers suggest that the pasture-based diet of organic ruminant livestock is largely responsible for the differences in the fatty acid profiles.

Organic meat has more antioxidants

According to a study in the [Journal of the Science of Food and Agriculture](#), organic beef in the EU can have higher antioxidant levels, with 34% more Q10 and 72% more taurine depending upon the beef cut, and 53% more β -carotene than conventional beef. Organic beef was especially beneficial when it came to heart-healthy α -linolenic acid, with 170% higher levels than non-organic beef. Finally, the researchers found that organic beef had 24% more α -tocopherol, which is a type of Vitamin E.

Organic Meat Reduces Exposure to Pesticides

Most people don't think about pesticides when they're choosing meat, but [pesticides from animal feed can accumulate in animal organs](#). Organic meat is produced without the use of harmful pesticides because these are prohibited in the production of organic animal feeds. Both pasture and feed must be produced without the use of harmful pesticides, so you can be sure that by choosing organic, you are skipping the chemicals and only getting the highest quality meat.

Eating organic may quickly reduce our pesticide load

Our diets are one of the primary sources of pesticide exposure, and the U.S. Food and Drug Administration recently found [pesticide residues in nearly 50% of foods sampled](#) from domestic and imported sources. The good news is that some studies show [eating organic foods can reduce existing levels of pesticides](#) detected in [children and adults](#). [Even just choosing organic occasionally can reduce your exposure to some pesticides](#). Many studies on organic diet interventions have focused on [organophosphate pesticides](#), which are largely used on animal feed crops like corn and soy, while others have looked at a more extensive range of pesticides, including neurotoxins such as [neonicotinoids](#) and [pyrethroids](#), and found the same thing: eating organic food can reduce these pesticide loads in the body.

While the studies mentioned above focus on general dietary consumption rather than organic meat in specific, if reducing exposure to pesticides is an important factor in your food choices organic can go a long way in achieving that goal.



Organic Doesn't Contribute to Antibiotic Resistance and Reduces Human Exposure to Antibiotics

The use of antibiotics is banned in organic, but is still common in conventional animal rearing. Using antibiotics in agricultural settings can add to the [development of antibiotic resistant strains of bacteria](#) that can be passed to humans *. Antibiotic resistance has been described as one of the most pressing human health concerns today, and contributes to thousands of deaths each year. [Antibiotic resistance](#) isn't the only concern with exposure to antibiotics. Many people have allergic reactions ranging from minor to acute when exposed to some classes of antibiotics (e.g. penicillin and sulfonamides). While the use of antibiotics in conventional agricultural practices [has been implicated as an important contributor to the growing crises of antibiotic resistance](#) and human exposure to antibiotics, research also demonstrates that organic farming systems can be part of the solution because they do not use them.

* *While the use of antibiotics in agriculture is one of the major contributors to antibiotic resistance it is not alone. [Other factors that contribute to antibiotic resistance are the over-prescription of antibiotics, patients not finishing an entire antibiotic course, poor infection control in health care settings, and poor hygiene and sanitation.](#)*

The rise of antibiotic resistant bacteria

The development of dangerous antibiotic-resistant bacteria has been propelled by the over-use of antibiotics for [both medical and non-medical purposes](#). When antibiotics are used to treat diseases, the target bacteria can develop a tolerance or resistance to those antibiotics over time, making them difficult or impossible to kill. Long-term and/or frequent use of antibiotics, even at low doses, has caused many types of bacteria to develop resistance, rendering several medically important antibiotics ineffective at combating infection. The World Health Organization has dubbed antibiotic resistance as "[one of the biggest threats](#) to global health, food security and development today."

Why is antibiotic use in agriculture such a big deal?

The strains of antibiotic-resistant microbes that [originate in agricultural settings can be dangerous](#), and even deadly to humans, because they render our primary defense against many bacterial diseases useless. These antibiotic-resistant diseases [can be spread to humans](#) through the [food supply and the environment](#). This means that if you get food poisoning from bacteria such as E. coli or Salmonella, antibiotics might not be able to kill the bacteria.

Beyond the development of antibiotic resistance, antibiotic use on farms can have negative effects on the environment.

Antibiotics can enter the environment from non-organic animal operations through dust from treated feed, manure and spills from manure lagoons, and water runoff from livestock operations—which impact aquatic organisms and cause occupational exposure to farmers and farmworkers. Antibiotics that make their way into wastewater from livestock operations are extremely difficult to remove. When wastewater mixes with freshwater via runoff or direct contamination, antibiotic residues can be absorbed by aquatic organisms including fish. Antibiotic-contaminated fish has been shown to be a major cause of human exposure to antibiotics in some communities.

Organic meat production drastically reduces the risk of human exposure to antibiotics and antibiotic resistance

The use of antibiotics is prohibited in organic production of both animals and the feed they eat. While the use of antibiotics in conventional agricultural practices has been implicated as an important contributor to this growing crisis, research also demonstrates that organic production, which does not use antibiotics, can be an important part of the solution.



No Synthetic Growth Promoters in Organic Meat

Synthetic growth promoters including hormones, steroids and beta-agonists are prohibited from use in organic farming. While some growth hormones have been banned for use in conventional meat, and added steroids and hormones are illegal in poultry production, steroids are [still allowed for U.S. production](#) of beef and sheep, and beta-antagonists ([β adrenoreceptor agonists](#)) are allowed for swine, turkeys, and cattle, but are most commonly used in beef and pork production. The use of synthetic growth promoters has remained [popular in conventional livestock operations](#) because [they increase muscle gain and improve feed efficiency](#). However, [many countries have banned U.S. meat imports](#) because of health concerns with artificial growth promoters in animal tissues.

Artificial growth hormones can cause concern, because once expelled from the animals, the synthetic hormones can make their way into [wastewater](#), and like antibiotics, they are extremely difficult to remove, exposing the natural environment to these growth hormones.

Beta-agonists are more widely used than hormones and are of concern for the health and welfare of animals as well as human health. Ractopamine is a popular drug approved by [FDA](#) for use in animal operations as a feed additive that promotes lean muscle growth in the last few months before slaughter. Beta-agonists have been implicated in reduced welfare, linked to increased injury during unloading, increased hoof lesions in [pigs](#), and [increased stress response](#) to aggressive handling, especially at higher doses.

Ractopamine is only approved for use by [a relatively small number of countries](#) and many countries including China and the EU implement bans. These countries take a precautionary stance, arguing there isn't enough scientific evidence to [prove that it is safe](#). While [some major US pork producers](#) are reducing their use of this drug to meet international standards, this is not a universal requirement. The best way to avoid this drug and other beta-agonists is to choose organic meat since these drugs are prohibited in organic meat production.

Organic Meat can Support Environmental Health and Help Mitigate Climate Change

Organic production of animal feed increases biodiversity

The production of organic feed for animals supports important biodiversity including [natural enemies](#) to pests and [pollinators](#) for two main reasons. Organic farming prohibits the use of harmful synthetic pesticides that are known to be toxic to [bees](#), [birds](#), and other [wildlife](#). Also, organic farming is generally [more diversified](#) with habitat that is beneficial to all types of wildlife.

Organic livestock and climate change

What animals eat, how their feed is produced, where they are housed, and how their waste is managed all influence the impact on greenhouse gas emissions and the potential for contributing to or mitigating climate change. The National Organic Program requires ruminant livestock to spend more time in the pasture than conventional animals on high-density feedlots, and when they aren't on pasture, they are required to eat a 100% organically produced diet. More time on pasture can help mitigate climate change, because pasturing ruminant



animals helps [store carbon in the soil](#), and growing feed without the use of synthetic nitrogen fertilizer is key in [reducing greenhouse gas emissions and energy use](#). Some studies on organically raised animals have looked at this directly: a study out of Germany found that organic dairy cow rearing has fewer environmental impacts by [using less energy and reducing nutrient runoff](#). While this study focused on dairy cows rather than beef cattle, the principals are similar.

Managed grazing sequesters carbon

Organically managed ruminant livestock are pasture-raised during the grazing season. Managed grazing is important for climate change, because well-managed pastures [can improve soil quality and store carbon, which would otherwise contribute to climate change as CO2 in our atmosphere](#). This is especially true when livestock are incorporated into organic crop rotations, because the manure from animals can reduce reliance on synthetic nitrogen fertilizer, which is energy intensive to produce and releases CO2 into the atmosphere.

Organic meat production uses less energy-intensive inputs

Organic pastures grow year after year without the use of synthetic inputs like nitrogenous fertilizer. The benefits of organic pasture are especially clear when you compare them to conventional concentrated animal feeding operations that rely on conventional corn and soy, which use a lot of energy-intensive synthetic nitrogen.

Livestock production that relies less on grain-based feed and more on pasture, [has the potential to use less energy and emit fewer greenhouse gases, according to the German dairy study mentioned above](#). Organic livestock are required to spend time outdoors and organic ruminants (e.g. cows and sheep) require a minimum of 120 days on pasture. On the other hand, there are no minimum requirements for non-organic production. Additionally, organic grains used for feed in organic meat production don't use energy-intensive synthetic nitrogen. Instead, they rely on nitrogen-fixing cover crops, and recycle waste from other production operations in the form of manure and compost. Since organic grain production does not use synthetic fertilizer, it removes a large emission element [from organic meat operations](#).

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