



Myths and Facts About Meat Production



*A guide for consumers confused
about recent claims made by
some activists and media reports.*

Separating Myth from Fact

America's food supply is a modern miracle and one in which we as a society can take pride. Despite this, some activists are aiming to change the way America eats and the way American food is produced. These individuals want consumers to believe that large is bad and small is good and that foods shipped from a distance are to be shunned while foods from local farmers should be embraced.

The fact of the matter is that this type of view is not only impractical, but based on incomplete information and a failure to either comprehend or admit the impact this system would have.

While locally grown, organic and natural foods currently are important niches in our rich and diverse food supply, these approaches are simply

not practical when it comes to feeding several hundred million people.

Instead of addressing the obvious drawbacks to a local-only approach, some proponents of this system prefer to perpetuate a number of myths about the meat industry. These myths include corn versus grass feeding cattle, use of hormones and antibiotics, nutritional benefits, the industry's contribution to global warming and food safety. This simplistic approach is both unfair and inaccurate.

We believe American consumers deserve all the facts and we hope this guide will assist you in the ability to think critically about some of the myths surrounding the food industry. For additional information, visit www.SafeFoodInc.com.

Myth: It is more affordable to eat convenient food than healthy, fresh food. Quick service restaurants are causing obesity by luring people with affordable, but unhealthy options.

FACT: The modern, abundant food marketplace offers more choices than anywhere else in the world. Consumers have the power to make choices that suit their tastes, nutrition needs, lifestyles, cooking abilities and budgets.

Quick service restaurant chains offer a wide array of choices like burgers, salads, apple slices, yogurt, bottled water, grilled chicken sandwiches, light wraps, soups and many other options. Sugar-free, low-fat and fat-free options are common. Nutrition information is available in restaurants to help consumers select the products that are right for them.

Value menus at major chains that feature food items for \$1 or close to it include: fruit and yogurt cup, side salad, apple dippers, grilled chicken wraps, baked potatoes, burgers, rice and bean burritos.

The choice is in the hands of the consumer. Beverages cost the same whether they are regular or sugar free. The choice belongs to the consumer.

Further, it's inaccurate to say that it costs far less to eat out than to prepare a healthy meal at home. During a recent visit to a major online grocery Web site, the following meal was purchased without using coupons.

Boneless chicken breasts (1.25 lbs -- \$5.86), broccoli (\$2.99), brown rice (\$1.99), green leaf lettuce (\$1.99) and beefsteak tomato (\$1.49), 1 cup light Italian dressing for marinating chicken and tossing salad (\$1.25), 1 oz. butter (\$0.25), half of a fresh cantaloupe (\$1.25) and ten ounces light vanilla ice cream (\$1.00). The total cost for this delicious, well-balanced meal that would feed a family of four was \$18.01. And there just might be some leftovers, too.

Similar balanced meals like taco and pasta dinners also could be purchased in the same price range.



Myth: Most U.S. cattle are fed an unnatural diet of corn when grass would be more natural

FACT: Cattle are herbivores (they eat plants) with ruminant digestive systems (four compartment stomachs). Corn is a plant that ruminants – from cattle to deer – will eat and enjoy when they have access to it. Anyone who has ever seen corn added to a feed trough knows that cattle will come running to eat it. When corn is fed, it is part of a feed mix that includes other roughage needed for digestion.

- Most beef produced in the U.S. comes from pasture-fed, grain-finished cattle. These cattle spend most of their lives on a pasture eating grass before going to a feedlot for four to six months.
- At the feedlot, cattle are grouped into pens that provide space for socializing and exercise. They receive feed rations that are balanced by a professional nutritionist. Feedlots employ a consulting veterinarian, and employees monitor the cattle's health and well-being daily.
- Feeding cattle a grain-based ration for a small period of time helps improve meat quality and provides a more tender and juicy product for consumers.



Myth: Corn feeding causes *E. coli* O157:H7 while grass feeding does not

FACT: If the meat industry could make *E. coli* O157:H7 disappear through a simple change in the diet, we would do it today. The science will show, however, that it's just not that simple.

- According to expert scientists Dale Hancock, Ph.D., and Tom Besser, Ph.D., DVM,, at the College of Veterinary Medicine at Washington State University, "Statements suggesting that all or most of human disease associated with *E. coli* O157:H7 can be attributed to feeding cattle grain instead of hay...is not supported by the existing scientific literature."
- The myth that corn feeding is to blame while grass and hay diets are the panacea seems to originate from a 1998 study of just three cows by a Cornell researcher. The study's design was badly flawed, according to experts in the field of animal nutrition. Still, the discounted study's conclusions continue to be cited as truth despite extensive research showing otherwise.
- A substantial number of papers by researchers around the world have documented that cattle on pasture or rangeland (i.e., eating grass) have *E. coli* O157:H7 in their feces at prevalences roughly similar to those of grain-fed cattle of a similar age (Sargeant et al, 2000; Fegan et al, 2004; Renter et al, 2004; Laegreid et al, 1999). One study (Fegan et al, 2004a) found that a higher prevalence among pastured cattle and, among positive cattle, similar concentrations of *E. coli* O157:H7 in feces.
- *E. coli* O157:H7 also is found in the gut of wild animals like deer that are not fed corn.

Myth: Hormone use in meat production is harmful to people and the environment

FACT: Hormone use in some livestock production is regulated and monitored carefully and has been proven safe for people and reduces environmental impact.

Five hormones are approved for use in some beef production. **Hormones are not used in veal, pig or poultry production.**

- Hormone use in cattle production has been found to be safe by scientists all over the world including the World Health Organization/Food and Agriculture Organization (WHO/FAO).
- One pound of beef from cattle implanted with a common hormone called estradiol contains 15,000 times less estradiol than the amount of estrogen produced daily by the average male and nine million times less than the amount of estrogen produced by a pregnant female, according to the Center for Veterinary Medicine.
- Hormone use in beef production means more beef can be produced from fewer cattle and less land. In fact, hormone use reduces the land required to produce a pound of beef by 67 percent.
- Using fewer cattle to produce more beef reduces greenhouse gas emissions by 40 percent and allows producers to provide more beef using less grain at a lower cost.

“ Another major implication of the increase in beef industry productivity has been a dramatic reduction in the industry’s overall environmental impact. Had these productivity improvements not occurred, we would need a much larger cattle herd to produce a smaller total beef supply. Those extra cattle would occupy significant amounts of land now needed for other agricultural crops and land now in non-agricultural uses. – **Thomas Elam, Ph.D.,** associate lecturer, **Indiana University,** and **Rodney L. Preston, Ph.D.,** professor emeritus, **Texas Tech University,** in *‘Fifty Years of Pharmaceutical Technology and Its Impact on the Beef We Provide to Consumers’* (2004) ”

Myth: A ban on the use of antibiotics in feed would protect public health.

FACT: Like many arguments currently being advanced by proponents of “local only” food, the claim that eliminating the use of antibiotics in livestock production will somehow prevent antibiotic resistance in humans is overly simplistic and not supported by the science.

- Research points to the overuse and improper use of antibiotics in humans as the leading cause of human antibiotic resistance. According to the CDC, “Antibiotic use promotes development of antibiotic-resistant bacteria. Every time a person takes antibiotics, sensitive bacteria are killed, but resistant germs may be left to grow and multiply. Repeated and improper uses of antibiotics are primary causes of the increase in drug-resistant bacteria.”
- For more than 40 years, antibiotics approved by FDA have been used to treat sick animals, prevent illness and maintain livestock health. Livestock and poultry producers treat their animals with antibiotics under the supervision of veterinarians. They also must follow careful withdrawal periods that ensure that antibiotics do not remain in their system when they are processed for food.
- USDA veterinarians in meat plants run tests to ensure that there are no illegal residues in meat products. This program has shown that the industry has a strong record of compliance.
- The American Veterinary Medical Association has testified before Congress about the benefits of maintaining animal health with the use of antibiotics and reiterated that there is no scientific justification to reduce or ban the use of antibiotics in food animals.

Myth: Organic food is safer and more nutritious.

FACT: Experts in the field of food and agricultural policy agree: organic farming produces safe and wholesome foods and they are equal in safety and nutrition to conventional foods. However, they also agree that organic farming is less productive and lacks the potential to feed our growing global population.

According to the United Nations Food and Agriculture Organization, there is "no reason to believe that organic agriculture can substitute for conventional farming systems in ensuring the world's food security."

FAO said in a 2007 statement that organic farming produces wholesome, nutritious food and represents a growing source of income for developed and developing countries. Director General Jacques Diouf was quick to point out in the statement, however, that "You cannot feed six billion people today and nine billion in 2050 without judicious use of chemical fertilizers."

According to Norman Ernest Borlaug, the American plant geneticist who won a Nobel

“ We have six-and-a-half-billion people on the planet, going rapidly towards seven. We're going to need a lot of inventiveness about how we use water and grow crops. We accept exactly the same technology (as GM food) in medicine, and yet in producing food we want to go back to the 19th Century. We wouldn't think of going to our doctor and saying 'Treat me the way doctors treated people in the 19th Century', and yet that's what we're demanding in food production. – **Chief Science and Technology Advisor to Secretary of State Hillary Clinton Nina Fedoroff**

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Peace Prize, "This shouldn't even be a debate. Even if you could use all the organic material you have – the animal manures, the human waste, and the plant residues – and get them back on the soil, you couldn't feed more than four billion people."

Myth: We can feed the world using an all-organic approach.

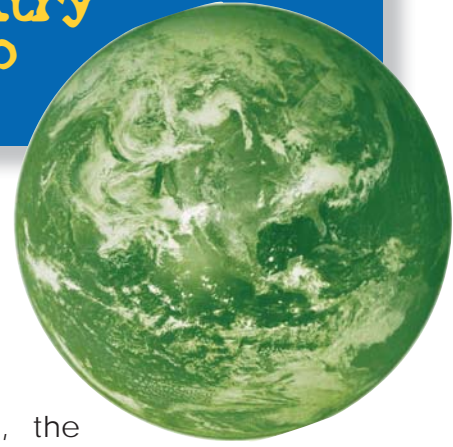
FACT: If consumers prefer organic food for personal reasons, they should take advantage of the abundant marketplace. The facts show, however, that organic and conventional meat and poultry are equally safe and nutritious.



FDA and USDA both state that organic meat and poultry products are equal in safety and quality to other products. In fact, a 2009 study from researchers at the London School of Hygiene & Tropical Medicine found that organic food has equal nutritional or health benefits to non-organic food.

Likewise, a comprehensive review of some 400 scientific papers on the health impacts of organic foods, published by Faidon Magkos and colleagues in 2006 in the journal *Critical Reviews in Food Science and Nutrition*, concluded organic food and conventional food are equally healthy.

Myth: Today's method of livestock and poultry production is the largest contributor to global warming.



FACT: Our nation's farmers, packers and processors, and their children, drink the same water, breathe the same air and eat the same food as the people who buy their products. They share the same concerns about ensuring a clean environment.

- Animal agriculture and meat consumption contribute only a small part of U.S. green house gas (GHG) production. According to EPA, in 2007 only 2.8 percent of U.S. GHG emissions came from animal agriculture.
- Since 1990, animal agriculture's contribution to GHG emissions has remained nearly constant. This is impressive considering that in that same time frame, the U.S. increased its meat production almost 50 percent, milk production by 16 percent and egg production by almost 33 percent.
- The fact is, today's more efficient production methods mean more meat and poultry are produced with a smaller environmental impact.

Myth: Nearly all food in America is produced on giant factory farms.

FACT: The vast majority of farms are owned and operated by families or family corporations – 98 percent, according to the American Farm Bureau Federation. Just two percent of farms and ranches are owned by non-family corporations.

“ We've gotten so good at growing food that we've gone, in a few generations, from nearly half of Americans living on farms to 2 percent. We no longer think about how the wonderful things in the grocery store got there, and we'd like to go back to what we think is a more natural way. But I'm afraid we can't, in part, because there are just too many of us in this world. If everybody switched to organic farming, we couldn't support the earth's current population — maybe half. — *Dr. Nina Fedoroff, member, National Academy of Sciences, administrator of the Agency for International Development science and technology advisor to Secretary of State Hillary Clinton, to the New York Times.* ”

- Technical advances in genetics, production and processing have helped create a meat and poultry production system that today requires less feed to produce a pound of meat.
- According to a 2008 *Time* magazine article, “A worldwide Slow Food initiative might lead to turning more forests into farmland.” To feed the U.S. alone with organic food, we'd need 40 million farmers, up from one million today, the article said.
- The meat and poultry industry is not only helping to feed 300 million Americans, but the world's population as well. The U.S. is the third largest beef exporter in the world, exporting more than 985 thousand metric tons, worth more than \$3.6 billion in 2008; and the U.S. is also the world's third-largest pork producer, with pork exports topping 2.3 million metric tons, worth \$4.9 billion in 2008.
- With the global population climbing to seven billion plus, as Norman Bourlag said, “You can't build a peaceful world on empty stomachs and human misery.”

Myth: U.S. meat and poultry products are becoming less safe than they used to be.

FACT: Federal data show that U.S. meat and poultry products are getting safer thanks to the use of new food safety strategies and technologies from the farm to the table.

Meat plants, for example, routinely use technologies that can include hide washers, carcass washes and steam cabinets that blast the outsides of carcasses to pasteurize them. In poultry processing, interventions such as the use of chlorinated water in cleaning and chilling the birds are known to reduce the presence of microorganisms, including spoilage organisms. The practice of chilling poultry carcasses in ice cold water is one of the most important decontamination steps in the process. Water chilling reduces bacterial contamination significantly.

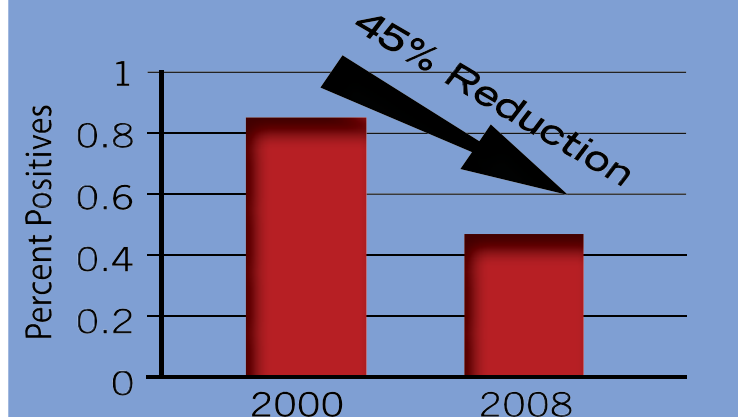
USDA's Food Safety and Inspection Service (FSIS) collects data on the incidence of certain potentially pathogenic bacteria, including *Salmonella* on raw, uncooked meat and poultry and *E. coli* O157:H7 in ground beef. They also monitor ready-to-eat meat and poultry products for the presence of *Listeria monocytogenes*, a pathogen that can live in the environment. Although relatively harmless to most people, it can make some people – like the elderly, pregnant women and those who are immune compromised sick.

The incidence of *E. coli* O157:H7 in fresh ground beef has declined 45 percent between 2000 and 2008 to less than one-half of one percent (0.47)

positive. Similarly, the incidence of *Listeria monocytogenes* on ready-to-eat meat and poultry products declined 74 percent between 2000 and 2007 to just roughly one third of one percent (0.37) positive.

Meanwhile, the U.S. Centers for Disease Control and Prevention (CDC) tracks foodborne illnesses in humans. According to these federal data, both trends are moving in the right direction.

Prevalence of *E. coli* O157:H7 in Ground Beef



The incidence of *E. coli* O157:H7 infections in people (from all food sources, not just meat) declined 44 percent between 2000 and 2007. Listeriosis infections (from all sources, not just meat and poultry) have declined 10 percent, since 2000.

While the last estimates done 10 years ago suggested that 76 million people experienced foodborne illnesses annually, CDC now believes these data have declined and are currently revising estimates. Still, assuming these data remain accurate, when you consider the U.S. population eats three meals a day, 365 days a year, that means 99.99 percent of meals are consumed safely without incident. Certainly, the goal is 100 percent. But 99.99 percent is a record in which most people would take pride.

**For additional information,
visit www.SafeFoodInc.com**



The American Meat Institute (AMI) represents the interests of packers and processors of beef, pork, lamb, veal and turkey products and their suppliers throughout North America. Together, AMI's members produce 95 percent of the beef, pork, lamb and veal products and 70 percent of the turkey products in the United States. The Institute provides legislative, regulatory, public relations, technical, scientific and educational services to the meat and poultry packing and processing industry.

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