

Agriculture responses to Food, Inc.
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About "Food, Inc..."

"Food, Inc." is a documentary that aims to change the way America eats and the way American food is produced. According to the film's makers, large is bad and small is good. Foods shipped from a distance are to be shunned while foods from local farmers should be embraced.

Locally grown, organic and natural foods currently are an important niche in a rich and diverse food supply. They meet the demands of consumers who believe these foods are best for their families and compatible with their views and values.

The film's makers believe their vision is best and their goal is to make the "niche" the normal and predominant way of producing food. However, their vision—and the one they hope to impart to America—is based upon incomplete information and a failure to either comprehend or admit the impact that their vision would have.

Subscribing to the film's makers' vision for North American food production would mean many things, including:

- Food prices—especially meat and poultry prices—would rise dramatically because of the increased costs of their inefficient production approaches.
- Vast amounts of land would need to be used to raise livestock and poultry in free range systems.
- The environment would suffer from open systems lacking environmental controls.
- Many fresh fruits and vegetables, which are seasonal in nature, would become unavailable in many areas of the country for much of the year.
- Imported foods like salamis from Italy, Danish hams and many other items would become "politically incorrect" because of the distances the products travel.



"Food Inc." Myths vs. the Facts

"Food Inc." contains an astonishing number of half-truths, errors and omissions. By clicking on the topics below you can learn more about issues raised by the film that concern you.

Can we feed the world using Joel Salatin's approach?

"Food, Inc." features Joel Salatin and his Polyface Farm in Virginia as a model of animal and crop production. Although Mr. Salatin's methods are charming and offer a platform for his [speaking business](#), they are not very practical when it comes to feeding several hundred of million people.

For example, [Polyface Farm](#) according to its Web site houses its chickens in movable shelters that can hold 75 chickens. A shelter then is towed by a tractor from one plot of pasture to another.

The fact is that the broiler chicken industry has 1.5 billion chickens on the ground at any one time. To house them the Polyface way would require the use of 20 million shelters, towed by thousands of tractors, over millions of acres of land. The cost would be enormous, and so would the "carbon footprint" of diesel-powered tractors and the additional land needed to support the movable shelter system.

Americans purchase 35 billion pounds of chicken per year. To suggest that this tremendous demand could be met by small-scale farming with labor- and energy-intensive methods is simply a fantasy.

In addition, Salatin allows chickens and pigs to occupy the same space, according to a video posted on a Web site (a video that is intended to be favorable to him). The pigs are given composted cow manure to eat: "When we feed hay to the cows, they eat and lounge in a pole shed that we bed down with wood chips, sawdust and old hay to absorb the excrement. This bedding ferments in the anaerobic conditions created by the heavy cows walking on it. Added corn ferments and offers a tasty salad for pigs," the site says.

Allowing humans, pigs and poultry to be in proximity to each other is often considered to be a risky practice since it can facilitate the transmission of viruses such as influenza. Farmers in the mainstream poultry industry would consider this a violation of biosecurity.

<http://www.takepart.com/blog/2009/04/14/video-from-our-visit-to-polyface-farm/>

How are broiler chickens raised? What kind of space and lighting is included in broiler houses?

Broilers (young meat chickens) are not raised in cages. They are raised in large, open structures known as grow out houses. These houses are equipped with mechanical systems to deliver feed and water to the birds and have environmental systems to provide a comfortable and productive environment, including ventilation systems and heaters that function as needed, most often with micro-processor controls. The earthen floor of the house is covered with bedding material consisting of organic matter such as wood chips, rice hulls or peanut shells. Because dry bedding helps maintain flock health, the trend is toward



enclosed watering systems rather than open troughs, because enclosed systems ("nipple drinkers") reduce spillage and help keep the litter dry.

Broiler breeding flocks that provide fertile eggs for the hatchery are also carefully managed. Since these hens lay the eggs that become the broilers for market, it is critically important that the flock be kept productive with minimum stress. Breeding hens are also kept in large, open houses, not in cages.

Keeping birds inside a house protects them from predators such as hawks and foxes. Some houses are equipped with curtain walls, which can be rolled up in good weather to admit natural light and fresh air. In that case, a fine mesh screen keeps rodents and wild birds out of the house and away from the broilers. Such bio-security measures are critical to ensuring the health of the flock.

The lighting in a commercial broiler house is kept at levels commensurate with the needs and welfare of the animals. Higher levels are used early in the flock's life to allow the birds to adjust to their surroundings. Dimmer levels are maintained much of the time to allow the birds to rest while still being able to find food and water. Feed and water are provided to the birds on a continual basis.

Are chickens today larger than they were in the past?

Chickens have always grown quickly to market weight, which these days averages around five pounds. The broiler chicken today is larger and sturdier than in years past, thanks to continuous advancements in the science of poultry nutrition and selective breeding for desirable characteristics. However, breeding is done in the traditional manner; there is no "genetic modification" or "genetic engineering" in the broiler industry.

I've heard that it is possible to convert the world's agricultural system to the organic or "slow food model." Is that true?

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.

Advocates of the "[slow food](#)" model argue for a return to older and less efficient methods of production, believing that this food ultimately is healthier for people and the environment. Others disagree.

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 1 million today.) In a recent editorial, FAO director-general Jacques Diouf pointed out that the world will need to double food production by 2050 and that to suggest organics can solve the challenge is 'dangerously irresponsible.'" (<http://www.fao.org/newsroom/en/news/2007/1000726/index.html>)

"Food, Inc." talks a lot about corporate farming and makes it seem like "family farms" are becoming a thing of the past. Is that true?

"Food, Inc." fails to define when a "family farm" crosses the line and becomes what they call a "corporate farm." Perhaps they believe this transformation occurs when a family farmer acquires more land or becomes more profitable or when the farmer has a certain number of livestock. That term is simply never defined in the film.

According to the American Farm Bureau Federation, American farms are still what most people would call "family farms." Today 98 percent of all U.S. farms are owned by individuals, family partnerships or family corporations. Just two percent of America's farms and ranches are owned by non-family corporations. Many of these farms are incorporated for legitimate business and tax reasons, the same way a dry cleaner or other small business might incorporate.

Hear what farmers have to say about ["corporate farming."](#)

"Food, Inc.'s" makers say that thirteen slaughterhouses produce most of the beef in the U.S.: Is that accurate?

According to USDA, 26 federally-inspected packing plants process 500,000 cattle or more per year. Together, these 26 plants process 76 percent of the cattle harvest.

Large plants have multiple lines to handle higher volumes of cattle, which enables them to utilize certain technologies and enjoy efficiencies of scale.

USDA also provides a larger number of inspectors for larger plants. Some of the largest plants in the U.S. may have 25 inspectors present during two operating shifts on any given day.

Although in the past, many plants slaughtered and processed products all in one location, today, the work in many cases has become more specialized. A cattle slaughter plant will ship beef to other plants to be processed into ground beef or cut into steaks. Again, by specializing, plants can gain greater efficiencies, which helps make the products more affordable.

The bottom line is that whether a plant is large or small, all plants must meet the same USDA food safety standards and other federal regulations and are inspected using the same requirements.

Is corn an unnatural diet for cattle? Is it only fed to cattle because it's cheap?

No. Cattle can get the nutrients they need from eating a wide range of plants, including a variety of grains and grasses. Most beef produced in the United States comes from grain-finished cattle, which spend most of their lives on pasture eating grass before going to a feedlot for four to six months. While at a feedlot, cattle are fed a combination of grain and hay formulated by a professional nutritionist to ensure a well-balanced and nutritious diet.

Corn feeding isn't new, it's just more sophisticated. In the United States, cattle have been fed grain for at least 200 years. Cattle are fed grains like corn because they are nutritious, energy-rich, and can be stored for use throughout the year. Because grass doesn't grow year-round in most of the United States, feeding grains like corn to cattle helps farmers and ranchers raise a consistent, year-round supply of great-tasting beef.

Did feedlots and modern beef production methods encourage the emergence of *E. coli* O157:H7 as a foodborne illness?

No. Bacteria like *E. coli* O157:H7 are found naturally in the environment and in the intestinal tracts of healthy animals whether in a feedlot or grazing on pasture. Research to-date has not found a significant difference in the likelihood of cattle to carrying *E. coli* O157:H7 between those on pasture or in feedlots.

Today, the scientifically-validated safety practices included in modern beef production methods coupled with strict government requirements allow us to control foodborne pathogens in the beef supply more effectively than ever. The beef industry continues to invest millions of dollars in developing new technologies with the goal of eliminating foodborne illness.

Can *E. coli* O157:H7 be eliminated or reduced by feeding cattle grass instead of grain?

More information: [E. coli O157:H7 in hay- or frade-fed cattle](#)

No. *E. coli* O157:H7 is capable of living in the digestive system of all cattle, regardless of what they have been fed. Although some scientific evidence does show that manipulating diet can affect the bacteria levels in cattle's digestive system, these studies have not found that a particular feeding regimen can reliably reduce levels of *E. coli* O157:H7. While research in reducing the prevalence of *E. coli* O157:H7 in healthy animals continues, our efforts are focused on preventing it from entering the food supply. To this end, harvesting facilities have spent millions to eliminate the pathogen through technologies at the plant.

Are cattle and meat production accelerating climate change?

Despite claims to the contrary, animal agriculture and meat consumption contribute only a small part of U.S. green house gas production. According to EPA, in 2007 only 2.8 percent of U.S. Greenhouse Gas (GHG) emissions came from animal agriculture through a process called enteric fermentation (the digestion of feed by ruminant animals) and through manure management.

Since 1990, animal agriculture's contribution to greenhouse gas emissions has remained nearly constant. This is impressive considering U.S. increases in meat production of almost 50 percent, milk production of 16 percent and egg production of almost 33 percent. The fact that GHG emissions from U.S. animal agriculture have remained relatively constant while protein production has increased dramatically reflects improved feed efficiencies, better manure management strategies and efficient use of cropland.

How much does animal agriculture contribute to GHG production? If we take a closer look at the top three sources of GHG emissions in 2007 reveals that carbon dioxide represents 84.8 percent of all GHG emissions, with 94.4 percent of that figure results from the combustion of fossil fuels. Methane production represents 7.9 percent of all GHG emissions, of which enteric fermentation and manure management combined represent 30.2 percent of total methane production. Nitrous oxide production represents approximately 5.2 percent of all GHG emissions, of which only 3.9 percent is attributable to manure management.

Key Facts:

- Today's American farmer feeds about 144 people worldwide.
- Approximately 85 percent of U.S. grazing lands are unsuitable for crop production. Grazing animals on this land more than doubles the area that can be used to produce food.
- Meat and poultry are an essential part of a balanced diet because they are nutrient dense and are considered "complete proteins," meaning that they contain all nine of the essential amino acids needed by humans. The current USDA recommendation for the consumption of protein is 63 grams a day for adult men and 50 grams a day for adult women.
- A 2006 Food and Agriculture Organization (FAO) report estimated total GHG emissions resulting from animal agriculture around the world. Attempts to apply these global numbers to the U.S. are misleading because the vast majority of global GHG emissions attributed to livestock production result from deforestation and converting rain forests and other lands to grow crops or pasture. Such changes did not occur in the U.S., which has seen an increase in the total acreage of forested land over the last several decades—even while total agricultural production has increased.
- Total U.S. dairy farmer GHG emissions decreased by about 32 percent between 1944 and 2007— even while milk production was up by almost 60 percent. GHG emissions per dairy cow dropped by almost 66 percent.
- All of animal agriculture's GHG emissions from 1990 to 2005 have remained nearly constant, increasing by only about 3.5 percent since 1990. During the same period total U.S. meat production has increased 50 percent, milk production has increased almost 20 percent and egg production has increased about 32 percent.

Are pesticides safe? What would happen if we stopped using them?

In the U.S, the quantity of pesticides used by farmers has decreased by four percent since 1990 while crop output increased by 15 percent, which indicates a reduction in the intensity of pesticide use due to the introduction of synthetic chemicals that are more specifically-targeted to particular pests.

Without the use of insecticides and fungicides, most fruits and vegetable crops would suffer losses of 50-90 percent due to uncontrolled insects and disease organisms. Fruit and vegetables

in the marketplace would have insect and disease damage making them unappealing to consumers.

Organic fruit and vegetable growers use insecticides and fungicides that are approved for organic growers. These are inorganic substances (such as copper and sulfur), microbes and toxic plant extracts. They are all registered as pesticides by the EPA and pass the same regulatory safety tests as do the synthetic chemicals used by non-organic growers.

However, since the inorganic substances, microbes and toxic plant extracts are not as effective as synthetic chemicals, organic growers spray more often than non-organic growers and use a greater tonnage of pesticides per acre than do non-organic farmers.

Without herbicides to control weeds, millions of Americans would have to take up the labor of hand-weeding fields. Organic growers typically have very high demand for people who hand-weed. These workers are expensive, hard to find and drive up food costs.

What kind of health care is provided to broiler chickens? Are antibiotics used?

Certain animal health products—some of them antibiotics, others not—are sometimes used in raising broilers. Any such usage is regulated by the U.S. Food & Drug Administration. The purpose of these is to maintain good health in the flock or to treat outbreaks of illness. Because of steadily improving standards of poultry husbandry, the health of the flock nationwide has never been better, and the usage of antibiotics and other products has declined over the years.

When these products are used in live chickens, withdrawal periods are observed, as required by regulations, to ensure that no traces of the products are in the animals when they are processed for food.

Concern has sometimes been expressed over the possibility of "antibiotic resistance," which theoretically could occur if animals are treated with antibiotics, which eliminate some but not all bacteria; the bacteria might then survive the processing of the birds and remain on food products, which are then not properly cooked before being consumed by humans. Through this lengthy chain of events, in theory a human could become ill with bacteria that have survived antibiotic treatment. However, the fact is that the most antimicrobials used in chickens are not actually used in humans, so the resistance problem would generally not occur. Even the antibiotics that have dual use (both animals and humans) are still highly effective in humans. Not a single case has ever been documented of a treatment failure in humans that stems from the usage of antibiotics in chickens.

As noted, "antibiotic resistance" would occur only if the chicken product were not properly cooked. Cooking food to the recommended minimum internal temperature of 165 degrees F. inactivates bacteria and other microorganisms whether they are resistant to antibiotics or not.

Is antibiotic use among livestock and poultry producers contributing to antibiotic resistance in humans?

For more than 40 years, antibiotics approved by the Food and Drug Administration (FDA) have been used to treat sick animals, prevent illness and maintain the health of animals. Livestock and poultry producers rely on these products so they can provide U.S. consumers with the safest food possible. Several layers of protection exist to ensure antibiotics are used to keep animals healthy without harm to public health. Although it is possible that antibiotic resistant bacteria can develop in animals as a direct result of antibiotic use and can cause resistant infections in humans via food, studies show it is highly improbable. Despite the scientific uncertainty, FDA and USDA, along with the veterinary community, animal health companies, producer organizations and other stakeholders have put in place several layers of human health protections during the past decade to reduce any risks associated with antibiotic use in animals. These measures, or layers of protection, include:

- A stringent approval process that was made even more stringent in 2003 when FDA finalized an additional safety measure requiring a risk assessment to be applied to all new and existing antibiotics;
- Post-approval risk assessments that have been conducted and published by FDA and researchers;
- Food safety monitoring programs that have been established by government agencies and sponsors to track the development of antibiotic resistant bacteria;
- Responsible use programs that are specific to the different livestock and poultry species to give veterinarians and producers specific guidelines to safely and properly use antibiotics in their health management systems; and
- Pathogen reduction programs that have successfully led to documented reductions in pathogens on meat and poultry products, contributing to decreased food-borne illness.

Calls for bans on the use of antibiotics have unintended consequences, as the Danish experience shows. After some antibiotics were banned in Denmark, more livestock and poultry became sick and required greater use of therapeutic levels of antibiotics. Furthermore, the elimination of antibiotics at the health maintenance level in Denmark has not led to a substantial impact on the incidence of antibiotic-resistant food-borne illness in humans.

Although total antibiotic use has decreased by half in Denmark, that country has seen a 96 percent increase in the use of therapeutic drugs for animals since 1996.

In addition, in 1999 an independent foundation of European scientists released an extensive scientific review of antibiotics used to promote healthy growth. The Heidelberg Appeal Nederland Foundation found no evidence that antibiotics used in this way compromised the efficacy of related antibiotics in human medicine, and no epidemiological data suggesting such use increases infectious diseases.

Human Health

Activists often claim that antibiotics used in livestock and poultry are the cause of human antibiotic resistance, but experts say otherwise. Rather, research points to the overuse and improper use of antibiotics in humans as the leading cause.

One study in the Journal of the American Medical Association found that in a single year 12 million antibiotic prescriptions for colds, bronchitis and other respiratory infections were written. More than 90 percent of these infections were caused by viruses, which do not respond to antibiotics.

If antibiotics are given for a viral infection—even though it's known that antibiotics can't treat viruses—then bacterial resistance is possible. If a patient begins feeling better and doesn't finish a prescription of antibiotics—even though the bacterial infection hasn't gone away—then bacterial resistance is possible. If a patient takes a leftover antibiotic for an illness it was not prescribed for, then bacterial resistance is possible.

It has been suggested that the use of antibiotics in food animals could be another source of resistant strains of bacteria. Years of research has failed to produce a significant link, however.

Union of Concerned Scientists

"Food, Inc.'s" makers cite a 2001 publication by the Union of Concerned Scientists (UCS) claiming 70 percent of antibiotics produced in the U.S. are fed to livestock—a statistical assertion that lacks context. There are 350 million people in the U.S. and 302 million head of livestock. Cattle weight eight to ten times more than what an adult human weighs. The U.S. processes six billion chickens and 271 million turkeys per year.

Even setting aside that context, it is helpful to look at UCS' methodology. UCS analyzed USDA data on livestock numbers and the FDA lists of approved drugs, made some estimates about doses, and came up with its numbers.

They underestimated the amount used in human medicine, since there are no public data about the amount used in humans. Moreover, included in UCS's estimates were tens of thousands of pounds of two products approved but never marketed in the United States.

In addition, nearly one-half of their total amount of antibiotics UCS estimated is used for animals is comprised of ionophores – not used in human medicine and playing no role in the resistance debate. In fact, last year, Margaret Mellon, one of the report authors, publicly said ionophores aren't even antibiotics (this was in the context of defending a meat company's claim of not using antibiotics).

Each year, the industry surveys animal drug makers to determine the amount of antibiotics sold for use in animals. In 2007, 13 percent of the total used in animals was used to enhance productivity (growth). The rest, or 87 percent, was used to target an identified pathogen—uses considered therapeutic by the Food and Drug Administration, American Veterinary Medical Association and the Office of International Epizootics and Codex Alimentarius.

Is organic food, locally-produced or "slow food" safer than "conventional" food?

No. All U.S. meat and poultry is subject to the same stringent government regulations and inspection procedures that ensure safety. Although beef producers provide a range of different

products that consumers demand, safety is the common denominator among every kind of beef you buy.

Is organic food or "slow food" better for the environment than "conventional" food?

No. Take beef production, for example. Modern, efficient beef production results in more pounds of beef utilizing fewer resources than less-efficient production methods. If 1950s technology were used today, we would need an additional 165 million acres to produce the same amount of beef. That's an area roughly the size of Texas! All beef producers go to great lengths to be good stewards of the environment, regardless of which production method they follow. In fact, 85 percent of all beef farmers and ranchers, regardless of the type of beef they produce, say environmental conservation is important to their success. Additionally, U.S. cattle producers are using fewer natural resources to provide more abundant and affordable beef; they supply 25 percent of the world's beef with just 10 percent of the world's cattle.

Can we ensure pig welfare using current production methods?

There are as many housing facility options for pigs as there are hog producers. In general, these production systems can be categorized as indoor or outdoor systems. All systems have advantages and disadvantages, but all have been designed with the health and well-being of the pigs and the humans that take care of them in mind.

The term "confinement" is commonly used to describe indoor systems. However, all pigs raised for food in the United States are confined, including those that are confined by fences or semi-permanent housing systems. Confinement allows producers to protect the animals from predators and to provide care and treatment to animals when needed. In indoor confinement systems, pigs also can be protected from weather events such as rain, strong winds, heat, snow or sleet. It is generally accepted that modern indoor confinement systems also provide a cleaner and healthier environment for the animals since the floor surface can be adequately cleaned.



It has been proven that pigs produced in outdoor systems, and particularly those raised antibiotic-free for niche markets may harbor parasites (such as *Trichinella* and *Toxoplasma*) that are not found in pigs produced in indoor systems. Likewise, the incidence of *Salmonella* infection in pigs produced in outdoor systems is shown to be higher. Researchers from Ohio State University have stated that these systems carry risks that “may lead to persistence of bacterial (*Salmonella*) pathogens and reemergence of parasites (such as *Trichinella*) of historical significance.”

Each producer selects the system that best meets his or her management style considering animal well-being, capital requirements, available labor, geographic location, environmental and manure management and applicable regulations. For some producers, the choice of an “alternative” housing system is mostly determined by the market niche they want to fill. Housing systems are so varied that pork producers may even adopt different production systems for different stages of production.

Every housing system has its challenges, and there are multiple factors that producers consider when selecting a housing system. The factors that most affect the success of a housing system and the well-being of the animals raised are the production management skills and husbandry skills of the producer.

To learn more about this important topic, view this video:

<http://www.youtube.com/watch?v=VEsGjjdHEsk>

Is access to the outdoors important in ensuring poultry welfare?

A poultry farmer's first concern is for the safety and health of his or her flocks. Whether they are "free range," meaning they have access to the outdoors, or conventionally raised indoors, a healthy turkey or chicken is essential to producing safe food for consumers.

Currently, most growers house their flocks in professionally-designed, heated, well-spaced houses that protect birds from diseases, predators and the elements. Free-range turkeys and chickens are allowed access to the outside. This niche market product has an added perceived consumer value and is priced accordingly.

To ensure the health and well-being of poultry flocks, farmers put in place strict biosecurity that prevents disease transmission from a visitor to the poultry flocks.

To learn more about pig housing, watch the following video:

<http://www.youtube.com/watch?v=DTXWta6q318>

How can we be sure that livestock are treated humanely in meat packing plants?

Animal handling in meat plants has never been better. For more than four decades, the industry has been subject to the federal Humane Slaughter Act of 1958. Federal inspectors are present in



meat plants at all times and are fully empowered to take action against a plant for Humane Slaughter Act violations. A range of actions may be taken depending on the seriousness of any offense. These actions can include shutting down part or all of the plant until a situation can be remedied or even withdrawing inspectors from a plant, which closes the plant. No other sector of animal agriculture is regulated and inspected for animal handling practices as thoroughly as meat packing plants.

In the last two decades, the industry initiated a number of voluntary initiatives that include enhanced animal handling training, implementation of voluntary guidelines and the use of self-audits to assess welfare and maintain continuous improvement. In addition, retail and restaurant customers have taken an increasing interest in animal welfare, creating animal welfare advisory committees and requiring animal welfare audits in order to do business.

Taken together, these developments have spurred the industry to implement new practices and to make animal welfare a top priority. The end result has been documented improvements in

handling based on data collected by animal welfare expert Temple Grandin. These data can be viewed at www.grandin.com

To learn more, go to <http://www.animahandling.org>

How can we be sure that poultry are treated humanely in poultry processing plants?

Both the broiler chicken industry and the turkey industry developed scientifically based animal welfare programs. They cover all aspects of broiler chicken and turkey production and processing, from the hatchery all the way to the processing plant. These guidelines are available to companies on a voluntary basis and have been widely adopted within the chicken and turkey industries. While the Humane Slaughter Act does not specifically cover poultry, USDA requires that poultry plants use the best commercial practices in handling poultry.

To view these programs, go to:

www.nationalchickencouncil.com

www.eatturkey.com

I've heard that meat and poultry inspection is lax. Is there enough federal regulation of meat and poultry plants to ensure food safety?

USDA's Food Safety Inspection Service (FSIS) is responsible for inspecting all raw meat and poultry sold in interstate and foreign commerce. FSIS oversight includes carcass by carcass inspection, sanitation verification procedures and inspection of imported products.

FSIS currently employs 2,876 food inspectors, 1,862 consumer safety officers, 1,801 compliance officers, 1,382 food technologists and 701 veterinary medical officers among its overall staff. Altogether the agency employs 9,397 people—an increase of 2.5 percent since 2003—to complete its mission of inspecting the approximately 6,200 federally inspected establishments in the U.S. And this number only reflects full-time employees; it does not include part-time or intermittent employees.

Agency funding has increased in recent years, as well. FSIS' FY 2009 budget was \$959 million, up from \$937 million in FY 2008 and \$898 million in FY 2007. All totaled, FSIS has enough people and resources to meet its mission of inspecting every animal slaughtered and have a presence in every facility in the United States. This presence is extremely important, because a plant that processes live animals cannot legally operate if FSIS inspection personnel are not present.

Furthermore, FSIS works with many other agencies, including those within the USDA, state inspection programs, the Food and Drug Administration and the Environmental Protection Agency to ensure the safety of meat and poultry products. No other industry is subject to this level of oversight.

In fact, the Food and Drug Administration (FDA) spends \$538 million to regulate and inspect all foods that do not fall under USDA jurisdiction. There are approximately 210,000 FDA-inspected plants, compared to 6,200 USDA-inspected plants.

Are U.S. meat and poultry products safe? What do the data show?

U.S. meat and poultry products are safe and getting safer. New strategies at the farm level help produce healthier animals. And new technologies used in plants in the last two decades have helped destroy bacteria during processing. Meat plants 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 pathogenic bacteria, like *Salmonella* and *E. coli* O157:H7, in fresh, uncooked meat and poultry products. 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—very sick.

According to FSIS data, *Salmonella* is down 71.4 percent in market hogs since 1999 (2.8 in 2007 compared to 9.8 percent in 1999; down 50 percent in turkeys since 1997 (7.1 percent in 2006 vs. 19.6 percent in 1997); down 57.8 percent in ground beef (2.7 percent in 2007 compared to 6.4 percent in 1998); down 33 percent in broiler chickens (7.6 in 2008 compared to 11.4 in 1999).

The incidence of *E. coli* O157:H7 in fresh ground beef has declined 45 percent between 2000 and 2008 to just 0.47 percent positive.

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

Specifically, the incidence of *E. coli* O157:H7 infections in people (from all food sources, not just meat) declined 40 percent between 2000 and 2007. *Listeriosis* infections (from all sources, not just meat and poultry) have declined 10 percent, according to the CDC. *Campylobacter* infections have declined 32 percent (2008 compared with 1996-1998 baseline). CDC also shows a decline in overall incidence of *Salmonella* infections among the general public. The data shows a nine percent decline in the number of *Salmonella* infections (2008 compared with 1996-1998 baseline).

Special note: Although “Food, Inc.’s makers frequently cite CDC estimates that 76 million Americans are sickened, 325,000 are hospitalized and 5,000 die each year from foodborne illnesses, these data are estimates contained in a [1999 paper by CDC’s Dr. Paul Mead](#). Over the past ten years, CDC has said that foodborne illnesses have trended downward suggesting it is time to develop updated information.

However, even 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 people would take pride.

Is imported meat and poultry safe?

Food safety requirements are extremely strict and ensure that meat imported into the United States meets standards that are equivalent to those in the United States.

Meat that is imported into the U.S. must come from one of only 33 countries that are certified as having meat inspection systems that are equivalent to the U.S. system. U.S. inspectors certify plants within those countries by doing on-site, in-country inspections. These countries' food safety systems are then reviewed annually by USDA’s Food Safety and Inspection Service (FSIS). Meat is subject to re-inspection at the border.

Very little chicken is imported into the United States. Only Canada and Chile currently have authorization to ship chicken to the U.S. and FSIS has certified that these countries have sanitary and veterinary control systems equivalent to the American system. These products are subject to the same re-inspection requirements as meat products. No turkey is imported into the U.S.

What do the meat and poultry industries do to ensure that their workers are eligible to work in the United States?

The meat and poultry industry has long been a good starting point for immigrants in the United States because the industry pays good wages for employees with little formal education, training or previous experience.

Taking all steps possible to ensure that workers are eligible to work in the United States benefits employers by ensuring a stable workforce and preventing the penalties associated with hiring people who are ineligible to work. Hiring people who will stay long-term also helps reduce the costs associated with training new employees, which can run into the thousands of dollars.

When hiring workers, employers are required to make a "good faith effort" to verify that a person's documents are legitimate and that they are the person they claim to be.

Screening Applicants: When screening applicants, employees must provide documentation that they are either citizens of the U.S. or are otherwise aliens who are eligible to work in the U.S. All applicants must present one of nine primary documents that either prove citizenship or work eligibility.

Hiring Applicants: After the person is hired, he or she must fill out the government I-9 form (Employment Eligibility Verification form) and present documents proving that he or she is the person claimed.

Employers must accept the documents as credible "if they reasonably appear on their face to be genuine and related to the person presenting them..."

Because of problems associated with document fraud, the meat industry has been and continues to be a leader in first supporting, and now expanding the E-verify Program, originally called "Basic Pilot" when it was first offered in just a handful of states.

E-verify is an on-line system that allows employers to verify that names and social security numbers presented by new employees match. E-verify is used after an employee is hired. The meat industry has embraced E-verify and fought to make it available nationwide. Ironically, now it is mandatory in some states and prohibited in others.

According to the 2006 survey of American Meat Institute members, 62 percent of responding plants said they used E-verify voluntarily, and that number has risen in the last three years. Eighteen percent said they used a private verification process. Eighteen percent said they work directly with the Social Security Administration.

Unfortunately, what E-verify cannot do is tell an employer whether that name and social security number are in use in multiple places. Employers often find out when this occurs but it can take months or even years to learn this. The meat and poultry industry is a strong advocate of enhancing E-verify so that it will provide more comprehensive information about eligibility to work.

How is worker safety assured in the meat packing and poultry processing industries?

Worker safety is a key concern of companies in meatpacking and poultry processing. According to federal statistics, worker safety has continued to improve in terms of employee injuries, illnesses, and accidental death. Although no accidental death is acceptable, the industry has made tremendous strides in improving worker safety.

The meat packing industry made worker safety a noncompetitive issue in 1990 and, together with the Occupational and Safety Health Administration (OSHA) and the United Food and Commercial Workers Union, released voluntary ergonomic guidelines for the meat industry. These were the first industry specific ergonomic guidelines and were hailed as a model for other industries.

Similarly, under terms of an agreement signed by the poultry industry and OSHA in November 2007, companies in the chicken and turkey industries have worked together with OSHA to implement a new alliance on worker safety, especially concerning machinery hazards. Under the agreement the industries will develop training and education programs on equipment safety in English and other languages, develop and communicate information on the recognition and

prevention of workplace hazards, and convene a dialogue on equipment safety issues to help forge innovative solutions in the workplace. This alliance followed other, similar initiatives and years of programs within the industry to improve safety.

Data indicate that these efforts have transformed the safety record of the industry.

Bureau of Labor Statistics (BLS) data show that the actual incidence of injuries and illnesses reported in the Meat Industry for 2007 (the most recent year for which data is available) are the lowest since BLS began recording this data in the early 1970s. Over the last 17 years, injury/illness rates in Meat Processing operations have improved by more than 70 percent.

Importantly, not all injuries and illnesses are alike. BLS provides separate data to categorize the seriousness of injuries and illnesses it records. These are the Total Incidents (Recordable) rate, and the Lost Workday Case rate. Recordables are all incidents "recorded" on the OSHA log; those requiring medical attention beyond normal first aid. Lost Workdays are a subset of Recordables, and occur under two circumstances—an injury serious enough to require at least one day away from work, or an injury requiring restricted job activity. Restricted activity can include shortened hours, a temporary job change and restriction from certain job duties or a combination of all three.

In the meat products industry—which encompasses the meat packing, meat processing and poultry processing sectors—BLS' 2007 data reports 8.4 injuries per 100 full-time workers per year. This is a reduction of nearly 8 percent from 2006 results. The more serious injuries (those requiring lost work days) decreased significantly from 6.2 injuries per 100 full-time workers in 2006 to 5.5 in 2007, a reduction of more than 11 percent. Both the total incidents rate and the more severe lost workday case rate currently stand at all-time lows for the industry.

For poultry processing, the rate of injury and illness in 2007 (the latest year available) was 6.1 per 100 full-time workers, down from 7.6 in 2006. The rate has been cut to less than half the level of 14.2 recorded in the year 2000.

The poultry industry rate was below that of the food manufacturing sector, which was 6.8 per 100 full-time workers, and slightly above the rate of 5.6 for all manufacturing, according to the federal report.

Detailed data are available at the BLS web site at <http://www.bls.gov/iif/oshsum.htm>

Other Helpful Links: www.workersafety.org

What is the role of labor unions in the meat and poultry industries?

In contrast to some reports, unions play a major role in the U.S. meat and poultry industry. According to the United Food and Commercial Workers (UFCW), UFCW represents 60 percent of the meatpacking industry's workforce and about one-quarter to one-third in poultry processing.

By contrast, [BLS reports](#) that in 2008, union members accounted for 12.4 percent of employed wage and salary workers, up from 12.1 percent a year earlier.

Do line speeds in meat and poultry plants move too fast to ensure food and worker safety? Does the speed of processing lines in meat and poultry plants play a role in food safety and worker safety?

Federal meat and poultry inspectors work in packing plants during every moment of production operations. They are fully empowered to enforce a broad and comprehensive array of regulations, including rules about how fast production lines may operate.

Line speeds in meat and poultry plants are regulated and carefully calculated by plant and company staff and depend on a variety of factors. Principal among these is the type of animal being processed (line speeds for hogs, cattle and poultry all differ significantly) and the design capability of the specific production operation.

Other factors that plants must consider include the staffing available, both of employees and USDA inspectors, in the plant, equipment capacities, line layout, work space size and line configuration. All of these things, and more, must balance correctly to generate operating speeds that will produce the desired results. In addition, all considerations must ultimately fall within the line speed parameters specified by USDA's Food Safety and Inspection Service (FSIS) regulations. Given the complexity of individual facilities and the applicable regulations, line speeds vary significantly from plant to plant. Line speeds may also vary seasonally, or depending on the price of livestock and other related concerns. All such considerations must adhere to USDA regulations.

Section 310.1 of the Federal Meat Inspection Act, and Subpart K of the Poultry Products Inspection Act, detail a number of specific requirements, including the maximum line speeds at which plants can operate depending on the type of animal being processed. The regulations specifically provide that:

"The inspector in charge shall have the authority to require the establishment to reduce slaughter line speeds where, in his judgment, the inspection procedure cannot be adequately performed at the current line speed because of the particular deficiencies in carcass preparation and presentation by the plant at the higher speed or because health condition of the particular animal indicates a need for more extensive inspection."

Accordingly, the USDA inspector-in-charge exercises authority over line speed settings and monitors speeds to assure compliance by the plant.

Line speeds are limited by law to ensure that USDA inspectors can check each carcass for signs that it is not wholesome. In plants with higher line speeds, the line is split and each USDA inspector checks only a fraction of the total run, with enough USDA inspection stations provided to ensure that all carcasses are inspected.

The myth of excessive line speeds in the meat and poultry industry has existed for a long time.

This myth is intrinsically appealing to those who do not fully understand the economics and production requirements of modern meat plant operations. In reality, meat and poultry companies benefit, and generate maximum profits, by producing and selling food that is safe, wholesome and of consistently high quality. Companies also benefit by protecting workers from the stress of performing jobs at rates that are beyond their capabilities. These facts encourage meat and poultry companies to operate within line speed regulations and at speeds that will help ensure maximum safety for both employees and the products.

For more information, go to: www.meatsafety.org

Is it possible to make a good living raising chickens?

The broiler chicken business is highly competitive, with relatively low prices for the products at retail and increasing costs of production due to factors such as the ethanol industry's competing demand for corn, which is the principal component of chicken feed (the largest part of the cost of raising a chicken). As a result, raising chickens is not considered a lucrative business, but it can be a relatively steady one. This is because the integrated chicken company takes the bulk of the market risk while maintaining payments to its contract growers at a relatively stable level.

Growing chickens is usually a portion of a family's income but not the principal income. In most cases, there is income from jobs off the farm or from other aspects of a diversified farming operation. There is simply not enough income from one or two chicken houses to support a family.

According to a University of Georgia researcher who has followed the subject closely for many years:

"The raising of broilers via contractual arrangements with integrated companies has been a primary component of the poultry meat industry for more than 50 years and has been a contributing factor in the growth and success of this business for both integrators and growers. Contract production has played a significant role in continuing the tradition of the family owned and operated farm for poultry growers. While poultry contracts offer benefits to growers such as reduced market risk, reduction of production responsibilities, lower operating capital and relatively predictable incomes, broiler production operations require substantial investments for growers. Because poultry houses represent long term investments (30 years or more), individuals need to understand the long term business potential of these commitments before building."

Dan L. Cunningham, Ph.D., ["Broiler Production System in Georgia, Costs and Returns Analysis, 2007-2008"](#)

According to Dr. Cunningham, the cost of building a modern, four-house contract broiler production unit with tunnel ventilation, solid walls and cool pads, from scratch would be \$700,000, or \$8.75 per square foot. If 100 percent of the cost was financed at 8.5 percent for 15 years, the annual cost would be \$82,718.

The grower would expect gross income of \$170,170 based on payments from the integrator of 5.25 cents per pound plus a small fuel payment. After paying the mortgage and expenses such as utilities, the grower would have about \$30,000 net cash income. The cash income would increase significantly when the mortgage is paid off. As noted, the \$30,000 would be a supplement to the family's income and not the principal income itself.

Are workers in meat and poultry plants paid decent wages?

In 2007, more than 506,000 workers were employed in the meat and poultry packing and processing industries. Their combined wages totaled more than \$12.8 billion. The half million U.S. meat and poultry workers pay approximately \$1.5 billion in federal payroll taxes and \$1.4 billion in Social Security taxes.

Employees in meat processing plants, on average, earn \$29,000 a year plus benefits. Employees in meat packing plants, on average, earn nearly \$27,000 a year plus benefits. When benefits are factored in, total compensation for these jobs is \$34,000-36,000. Employees in poultry plants, on average, earn about \$23,000 a year, plus benefits. Jobs in meat and poultry plants require no previous experience or formal training. These wages are very competitive with other jobs and even pay more than some jobs that do require specialized training. Average Earnings of Workers in Iowa, the Nation's Largest Pork Producing State

Source: *Bureau of Labor Statistics.*

Should I be concerned about undercover videos shot in meat and poultry plants?

Consumers need to think critically about the source of claims. Although no industry is ever perfect, aggressive oversight in meat and poultry plants by federal inspectors coupled with an industry-wide commitment to humane handling helps prevent many animal welfare problems.

Often the source of videos and claims are members of the animal rights movement. Animal rights groups believe that people should be vegetarians—period. They are so committed to this view, that they at times have released disturbing images and videos that have been well-publicized by the media.

In some instances, animal rights groups have supplied misleading and even edited videotapes to the news media. At times, these tapes have created questions among consumers. In the early 1990s, one group released a tape that aired on a number of television stations in the U.S. The tape was later rebutted by leading animal welfare expert Temple Grandin, Ph.D., of Colorado State University. More recently, a state attorney general investigated a videotape that was released by an animal rights organization. The state attorney general's final report determined that the video was edited and was misleading to the public and the media.

The bottom line: all USDA-inspected meat products are subject to federal humane regulations. If a product bears the USDA seal, it has met both food safety and humane regulations. Consumers should be further assured that good animal handling is good for animals—and good for business. The U.S. meat industry recognizes this fact and has embraced voluntary animal humane handling

and audit programs that supplement federal requirements and help ensure that humane handling in U.S. meat packing plants is at the best level ever.

Why can't the public tour meat and poultry plants?

Controlling access to meat and poultry plants and poultry and livestock operations is essential to keeping livestock and poultry healthy and ensuring food safety. Although some speculate that the industry "doesn't want the public to see what they do," nothing could be further from the truth. In fact, the industry makes available many videos showing the interiors of plants and livestock and poultry operations. And as far as ensuring food safety and animal welfare, federal inspectors in our plants are civil servants who function as the eyes and ears of the public.

To see video showing how meat and poultry are produced and how livestock are handled, go to the following links:

www.YouTube.com/meatnewsnetwork

<http://www.youtube.com/watch?v=EGWqwYP1dcA>

<http://www.youtube.com/user/TurkeyGal1225>

Are Americans eating too much red meat?

No. The Dietary Guidelines and MyPyramid recommend that adults eat 5 ½ ounces (or 156 grams) of lean protein each day, and most Americans already are consuming red meat well within these guidelines. On average, adults are consuming 2.3 ounces (65 grams) of red meat each day.

Are meat and poultry products good for you?

Foods in the meat, poultry, fish, eggs, nuts and seed group provide many nutrients that are vital for the health and maintenance of your body. Many choices are available in this food group. Choosing low-fat meat and poultry options often makes it easier to eat fewer calories and control weight while still benefiting from the key nutrients that meat and poultry offer.

Meat and poultry deliver not only great taste and good nutrition, but also a high level of satiety—meaning that a person gets hungry less often when consuming meat and poultry. This also helps keep weight under control. Use the Nutrition Facts label on products to select choices that meet your health needs.



Meat and poultry contain vital nutrients. **Proteins** function as building blocks for bones, muscles, cartilage, skin, and blood. They are also building blocks for enzymes, hormones, and vitamins. **Iron** is used to carry oxygen in the blood. Many teenage girls and women in their child-bearing years have iron-deficiency anemia. Meats are high in heme-iron—a more readily absorbable form than non-heme-iron. Non-heme-iron is found in plant foods such as spinach and beans. **Zinc** is necessary for biochemical reactions and helps the immune system function properly. **B Vitamins (thiamin, riboflavin, niacin, B6, B12)** serve a variety of functions in the body. They help the body release energy,

play a vital role in the function of the nervous system, aid in the formation of red blood cells, and help build tissues. **Satiety:** research shows that including protein in your meals may help you feel less hungry over the next few hours. This may lead to less snacking and make it easier to manage your weight.

Are organic and "slow foods" more nutritious?

While some organic and "slow food" advocates argue that their products are more nutritious than those produced in traditional ways, the research simply does not support this notion. The U.S. Department of Agriculture (USDA), which certifies organic products, makes no claims that organically produced food is more nutritious than conventionally produced food. According to USDA, organic food differs from conventionally produced food in the way it is grown, handled, and processed.

The bottom line: eat what you like and what you can afford. But don't choose one over the other because of perceived nutrition benefits.

Helpful Link

[Claims of Organic Foods' Nutritional Superiority](#)

How do U.S. meat and poultry prices compare to those around the world?

Americans spend less of their disposable income on food than any other nation in the world. The percent spent has decreased dramatically over the last several decades.

Until 1970, Americans spent 4.1 percent of their total disposable income on meat and poultry. That number has dropped over time to 1.7 percent.

[Total spending on food](#) is 5.7 percent of disposable income in the U.S.; 9.2 percent in Canada; 13.7 percent in France; 24.2 percent in Mexico; 35 percent in China; and 45.7 percent in Pakistan.

People in the film claim that it's cheaper to eat unhealthy meals in fast food restaurants. Is that true?

Quick service restaurant chains offer a wide array of choices. While once, burgers and fries were the only featured items, today consumers can purchase 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 all restaurants to help consumers select the products that are right for them.

Let's compare some menu choices now. A hamburger and fries at one popular chain contains 480 calories and 20 grams of fat. But that same chain offers other options, including offering customers a premium salad with grilled chicken, light dressing and apple slices with 280 calories and nine grams of fat. And there are many other choices with more and less calories and fat depending upon your taste and nutrition needs.

When people purchase foods at restaurants, they are paying for the cost of the labor to prepare those foods. That's why it is typically less expensive to purchase food at the grocery store and perform the "labor" (the cooking) yourself. For example, 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 (.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 was \$18.01. And there just might be some leftovers, too.

Here are some other reasonably priced meal suggestions, based upon food selected on line from another major grocery retailer

Mexican Feast – one pound 90 percent lean ground beef (\$4.29), one package flour tortillas (\$2.99), 1 package taco seasoning mix (\$1.09), one 8-oz. package shredded cheddar (\$2.59), 1 15-oz. can organic black beans (\$1.09), one 16-oz bag brown rice (\$1.65), one tomato on the vine (\$.62), one head iceberg lettuce (\$1.79), three bananas (.90), 2 apples (\$1.52). Total cost: \$18.52.

Italian Dinner – one 12-oz. package cooked Italian meatballs (\$4.49), one 20-oz. loaf sliced Italian bread (\$1.50), 1 pound whole grain pasta (\$1.75), one 24-oz. package express garden salad (2.99), one 16-oz. bottle Italian dressing (\$1.33) and one quart pineapple, raspberry and orange low-fat sherbet (\$2.50). Total Cost: \$16.55

Note that many of the items above are convenience items, like pre-made meat balls, canned, cooked beans, grated cheese and bagged salad. Additional savings may be achieved by grating cheese, cooking dry beans, washing and cutting lettuce and so forth.

Can you be sent to prison for criticizing hamburger in Colorado?

Claims like this one are legally laughable. Colorado's law reads as follows:

"It is unlawful for any person, firm, partnership, association, or corporation or any servant, agent, employee, or officer thereof to destroy or cause to be destroyed, or to permit to decay or to become unfit for use or consumption, or to take, send, or cause to be transported out of this state so to be destroyed or permitted to decay, or knowingly to make any materially false statement, for the purpose of maintaining prices or establishing higher prices for the same, or for the purpose of limiting or diminishing the quantity thereof available for market, or for the purpose of procuring, or aiding in procuring, or establishing, or maintaining a monopoly in such articles or products, or for the purpose of in any manner restraining trade, any fruits, vegetables, grain, meats, or other articles or products ordinarily grown, raised, produced, or used in any manner or to any extent as food for human beings or for domestic animals."

The pertinent parts of this provision focus on competition and fair practices: "It is unlawful for any person or knowingly to make any **materially false statement**, for the purpose of

maintaining prices or establishing higher prices for the same, or for the purpose of limiting or diminishing the quantity thereof available for market, or for the purpose of procuring, or aiding in procuring, or establishing, or maintaining a monopoly in such articles or products, or for the purpose of in **any manner restraining trade.**"

Any fair reading of this law would lead to the conclusion that a consumer's "burger criticism" is not the activity with which this law is concerned, nor would a consumer who "criticized" a burger find himself in the cooler.

In layman's terms: you can't lie about a food product in order to gain a market advantage. For example, if a Colorado meat packer made misleading statements or started false rumors about a competitor to alter supply and demand to his advantage within the state, that type of behavior might get a prosecutor's attention and lead to charges.

Even if some state official attempted to construe this law to mean that a citizen had violated Colorado's law by "criticizing" ground beef, any law student who has studied constitutional law and the Bill of Rights would know how to mount a defense by invoking the First Amendment's provisions about Freedom of Speech.

Food, Inc. is a one-sided, biased film that the creators claim will "[lift the veil on our nation's food industry, exposing the highly mechanized underbelly that's been hidden from the American consumer.](#)" Unfortunately, *Food, Inc.* is counter-productive to the serious dialogue surrounding the critical topic of our nation's food supply.

Throughout this film, *Food, Inc.*:

- Demonizes American farmers and the agriculture system responsible for feeding over 300 million people in the United States.
- Presents an unrealistic view of how to feed a growing nation while ignoring the practical demands of the American consumer and the fundamental needs of consumers around the world.
- Disregards the fact that multiple agriculture systems should – and do – coexist.

Any factual errors in *Food, Inc.* regarding other companies are best addressed by those organizations themselves. It is our responsibility to set the record straight on the film's portrayal of Monsanto.

Monsanto did not decline to participate in the film and in fact, invited the film makers to a trade show to learn more about Monsanto, agriculture, and talk with farmers. The crew opted not to attend the show.

Food, Inc. suggests the US produces too much corn and subsidizes the overproduction.

However the film fails to recognize that the US produces corn for other countries and is largest exporter of corn in the world. In 2007, the US exported 2.4 billion bushels, or 134.4 billion pounds, of corn. Japan, South Korea, Taiwan, the Middle East and North Africa are some of the biggest importers of corn.

Sources:

USDA FAS

USDA ERS

Patenting of seeds with enhanced genetics was actually in practice 10 years before Monsanto introduced its first genetically modified seeds. Patent protection for seeds exists for GM and non-GM seeds alike. For more information of seed patents, please see the (History of seed patents)

Monsanto pursues legal action against farmers who improperly save and resell or replant our patented seed only when other efforts to resolve the issue prove unsuccessful. The first time growers purchase Monsanto seed, they sign a stewardship agreement and contract not to save and resell or replant seeds produced from the crops they grow from Monsanto seed.

A very small percentage of farmers do not honor this agreement. Monsanto does become aware, through our own actions or through third-parties, of individuals who are suspected of violating our patents and agreements. Where we do find violations, we are able to settle most of these cases without ever going to trial. In many cases, these farmers remain our customers. Sometimes however, we are forced to resort to lawsuits. This is a relatively rare circumstance, with about 138 lawsuits having been filed within the last decade. Less than a dozen cases required a full trial.

Whether the farmer settles right away, or the case settles during or through trial, the proceeds are donated to youth leadership initiatives including scholarship programs.

Both the public and private sectors benefit when employers have access to the most competent and experienced people. It makes sense that someone in government who has concluded biotechnology is a positive, beneficial technology might go to work for a biotech company, just

as someone who believes otherwise might find employment in an organization that rejects agricultural biotechnology.

Monsanto is an agriculture company that sells seeds and other agricultural products; we do not grow or produce crops for the food supply. Both small and large farming operations purchase our products for personal or commercial use. It is not Monsanto's business to grow or produce crops for food production and any grain, fiber or produce we sell as a commodity is inconsequential to the market.

Monsanto is one of several suppliers of seed in the agriculture industry. Monsanto's top competitors include DuPont, Dow, Syngenta, Bayer CropScience, and a number of small independent seed companies.

Sources:

Yahoo Finance

Hoovers

The film, *Food, Inc.*, briefly raises the issue of patents on seeds in the United States. The patenting of seeds was first permitted under the Plant Patent Act of 1930. Since that time the law has developed as technology has advanced. Patents – whether on new plants or biotech traits – allow the creator of the technology the opportunity to commercialize their innovation and to obtain a return on their investment of time and money.

***Food, Inc. Fiction:* The film states/suggests that the ability to patent plants and living organisms came into being only in the 1980s.**

Truth: Plants have long been subject to provisions of U.S. patent law, and [plants were patented long before the 1980s](#).

It is true there have been a number of court challenges relative to the patenting of plants since the 1980s. All have found patent protection provisions do indeed apply to plants.

The ability to secure some intellectual property protection with respect to plant-related inventions is common in most developed countries. Patents encourage and reward innovation. If plant breeders were not able to protect the plant varieties they develop from unauthorized reproduction, there would be less incentive for them to develop improved plant varieties.

In agriculture plants and seeds with enhanced traits or genetics may be patent protected. This is true in the U.S. for plant varieties as well as biotech innovations. Monsanto is one of many seed companies that patent their innovations. Growers who purchase our patented seeds sign a [Monsanto Technology/Stewardship Agreement](#) — an agreement that specifically addresses the obligations of both the grower and Monsanto and governs the use of the harvested crop. The agreement specifically states that the grower will not save or sell the seeds from their harvest for further planting, breeding or cultivation.

Food, Inc., addresses several cases in which there were violations or suspected violations of this contract or our patent. Unfortunately, the film neglects to tell the full story of these cases. Below is more detail which we believe portrays these situations more fully and in proper perspective.

Farmers on Saved Seed

Food, Inc. Fiction: [Farmer Troy Roush](#) appeared in *Food, Inc.* concerning his dealings with Monsanto relative to a legal case centered on patent infringement. In addition, he suggested that GMOs are not healthy and stated that patented plants have “torn apart rural communities”.

Truth: Unfortunately, Monsanto cannot speak on the case involving Troy Roush. Monsanto and the Roushes concluded their litigation in 2002 with a confidential settlement agreement. Both parties mutually agreed as part of the settlement that they would not disclose the terms of the settlement or discuss the litigation. [Learn more about Troy Roush.](#)

Mr. Roush has made comments that fall outside of the scope of the lawsuit which we can address:

Mr. Roush said that the introduction of patented seeds have pitted farmer against farmer and torn apart rural communities. Patent infringement has been a contentious issue in some communities where it has occurred. We would suggest that it is not the patenting of seeds that has caused this, but the actions of those few who have chosen to ignore the law and their agreements to save seed illegally. Monsanto is frequently made aware of saved seed cases by other [farmers who contact our customer service line](#) with this information. They do so because they feel it is unfair that they are being put at a competitive disadvantage by their neighbors who do not follow the law and legal agreements as they do.

It is interesting to point out, that while Mr. Roush is a harsh and frequent critic of Monsanto and GM crops, he remains a customer of Monsanto having purchased a considerable amount of corn and soybean seed from us during 2008.

Food, Inc. Fiction: [Dave Runyon](#) levied several complaints regarding Monsanto's investigative and business practices.

Truth: Monsanto had reason to believe Mr. Runyon was illegally saving Roundup Ready soybeans. We approached Mr. Runyon with our concerns, and he indicated he used only conventional soybeans. As a result of our interactions, Monsanto determined Mr. Runyon was someone who did not want to do business with Monsanto, so we properly ended our business relationship with him by suspending his authorization to purchase our technology.

We would be happy to reconsider our business relationship with Mr. Runyon if he works with us to address our concerns about the prior circumstances.

Food, Inc. Fiction: [Maurice Parr](#), a seed cleaner against whom Monsanto took legal action, claimed he settled with Monsanto because he could not afford the legal costs of going up against the company.

Truth: Maurice Parr operates a seed cleaning business in Indiana. Mr. Parr had received many clear communications about the patent law around Monsanto's patented Roundup Ready® soybeans, and he knowingly disregarded this information. Mr. Parr confused farmers about the law regarding patents, which led to some of his customers breaking their contracts by saving seed as well. Mr. Parr did not "settle with Monsanto." Rather, Mr. Parr took his case to court, and the U.S. District Court in Lafayette, Indiana issued a permanent injunction against Mr. Parr prohibiting him from cleaning Roundup Ready soybeans.

The injunction also makes clear Mr. Parr can honor the patent by informing customers it is illegal to save Roundup Ready seed and requiring his customers certify their seed is not from a patented product and providing samples for testing. His business will be able to continue to clean conventional soybeans, wheat and other seed crops. Monsanto has agreed not to collect the damages awarded against Mr. Parr as long as Mr. Parr honors the terms of the court order.

[View the injunction issued by the U.S. District Court in Lafayette, Indiana](#)

Food, Inc. Fiction: A farmer gave an anonymous interview during the film in which he said he could not reveal his name or show his face due to a "gag order" that was part of the settlement. His face was shadowed and voice digitally augmented to protect him from repercussions of violating the alleged terms of settlement.

Truth: Monsanto will not discuss the specifics of seed patent infringement cases where a settlement agreement or court order so directs. It is **NOT** Monsanto's practice, however, to require or even request confidentiality except around how settlement payments are structured.

Confidentiality is a farmer concern. Formerly, we accommodated farmer requests for anonymity and agreed to confidentiality clauses. Due to the fact these accommodations have been portrayed as "gag orders" required by Monsanto, we no longer accommodate such requests except under exceptional circumstances.

Food, Inc. Fiction: The film states a Supreme Court decision involving [plant patents](#) was written by Supreme Court Justice Clarence Thomas, who once worked for Monsanto. The film suggests the decision was influenced by Thomas' previous employment with Monsanto.

Truth: The case in question was *Pioneer Hi-Bred International v. J.E.M Ag Supply* and involved a Monsanto competitor. Monsanto was not a party to that case.

Clarence Thomas worked for Monsanto for a few years but has not been employed by Monsanto since the 1970s, long before the company was involved in biotechnology or owned a seed business.

The Supreme Court's decision in *Pioneer v. J.E.M.* upheld the ruling of the appeals and lower court decisions that plants are indeed subject to patent protection under U.S. patent law. The Supreme Court agreed with both lower courts.

While Justice Thomas indeed wrote the majority opinion, this was a 6-2 decision. Justice Thomas was joined by Chief Justice Rehnquist, and Justices Scalia, Kennedy, Souter and Ginsberg – none of whom have or had any association with Monsanto. Justices Breyer and Stevens dissented, and Justice O'Connor did not participate in the decision.

In short, while one former Monsanto employee was involved in a Supreme Court case to which Monsanto was not a party, the decision in that case merely confirmed the substantial prior case law and U.S. Patent Office precedent to the effect that plants are subject to patent protection under U.S. law.

The film, *Food, Inc.*, suggests the food supply is dominated by corporate farms. In fact, the 2007 edition of [USDA Structure and Finances of U.S. Farms: Family Farm Report](#), found that [98% of farms in the U.S. are family owned and operated](#). The truth is thousands of family farmers work hard every day on their family farms to bring us the food on our tables.

Farmers are good businessmen and women, as well as talented agronomists. They care about the products they produce and are stewards of the land - which has often been in the family for several generations.

Take Action Now

Food Inc.'s producers are promoting the use of a participant guide to persuade consumers that they must take action to shift the American food production system to low-yield, inefficient systems that will raise prices and hamper efforts to feed the world.

Other Participant Films like an Inconvenient Truth are used widely in schools. If you are concerned about your school system's use of the film in the classroom, tell your State Department of Education and your local school district that equal time is needed from university experts or industry representatives.

Listing of State Departments of Education
<http://www.ed.gov/about/contacts/state/index.html>

summary



Will enhanced food production technology and innovation be necessary to feed the expanding global population over the next 20 years?

Though agriculture has largely met world food demand in the past, there are about [800-million people](#) who have remained food insecure in industrialized and emerging countries. [Increasing food prices](#) have lead to economic difficulties in many countries, generating further food insecurity and political instabilities.

The [Food and Agriculture Organization](#) of the United Nations estimates population will grow at an average of 1.1 percent while food demand will grow at 2.2% annually. Global land use will increase by less than 1 percent, resulting in a 16 percent reduction in world agricultural GDP by 2020.


Investments in technology innovation will be the key to the future food supply. This includes the development and use of nutrients, pest control products, and farm equipment. It also includes the possibility of genetically enhanced crops to provide increased yields and more calories per yield.

Future farmers will increasingly rely on their own energy production through [biomass and wind farms](#) in order to decrease dependence on fossil fuels. Much must also be done to reduce food waste.

The experts researched the statement:

Enhanced food production technology and innovation will be necessary to feed the expanding global population over the next 20 years.



 View this expert's research

Dave Weatherspoon, Ph. D.,
Associate Professor,
Agriculture, Food, and Resources Department
Michigan State University

Dr. Weatherspoon concludes the statement is “true.”



close x

summary



Is food grown and produced in the U.S. as safe or safer than food grown outside the U.S.?

With the increasing number of recalls in the news, many Americans are wondering if their food is safe. There is still a lot of room for improvement but overall, the U.S. food safety system works as well or better than most countries.

Foods produced and processed in the most industrially developed countries such as the United States, Canada, Australia/New Zealand and the European Union (EU) are similar in quality and safety, but food from developing nations varies widely.

The U.S. imports food through approximately 300 ports and from over 150 countries. The Food and Drug Administration during the month of April 2009 alone rejected more than 930 import shipments. Keeping everything that might be harmful from entering is difficult due to the cost and lack of personnel required to police such massive shipments of food and the time and resources needed to test each shipment – some of which is highly perishable such as fruits and vegetables.

Despite well-publicized food safety incidents in the U.S., progress is being made on several fronts. Researchers are breaking new ground in understanding pathogens and the origins of foodborne diseases; surveillance methods are improving as genetic techniques allow cases in different geographical areas to be linked to a common food source; and food safety education efforts are continuing.

The experts researched the statement:

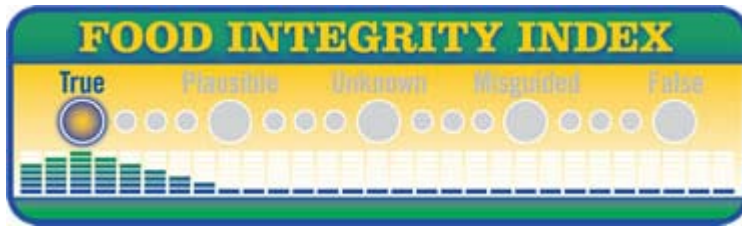
Food grown and produced in the U.S. is as safe or safer than food grown outside the U.S.



[View this expert's research](#)

Ann Draughon, Ph. D.,
Co-Director of the Food Safety Center of Excellence
University of Tennessee

**Dr. Draughon
concludes the
statement is “true.”**



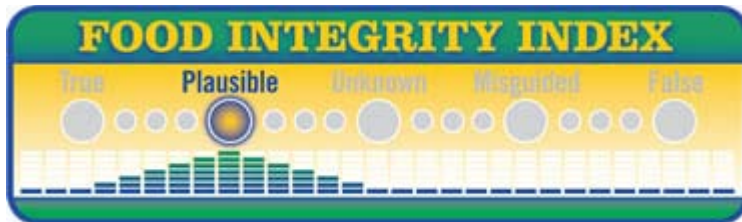
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View this expert's research

Mark Kantor, Ph. D.,
Associate Professor
Nutrition and food Science
University of Maryland

Dr. Kantor concludes the statement is “plausible.”



close x

summary



Is the well-being of farm animals on larger operations disregarded in the pursuit of higher profits?

The question is often asked by critics of modern animal agriculture but the size of the farm is not a reliable indicator of animal welfare. Research shows good animal husbandry has more to do with the people providing the care.

Small and large farms present different challenges, but both require skilled and conscientious management to promote good animal care. While there are fewer animals on a small operation, time spent caring for the animals must be juggled with various tasks. On larger operations, employees are often trained in specialized skills and a larger staff might allow for more personalized animal care.

The reason farms have gotten larger has more to do with maintaining income levels than increasing profits. One study provides this example: In the 1970s an operation producing 2,000 pigs a year would generate a profit of \$42,000. In the 1990s the profit from such a farm would have been about \$8,000. Taking inflation into account, the size of the farm would have to be roughly ten times larger in the 1990s to result in a similar income.

The experts researched the statement:

The well-being of farm animals on larger operations is disregarded in the pursuit of higher profits.



[View this expert's research](#)

Edmond Pajor, Ph. D.,
Associate Professor,
Behavior and Animal Welfare
Purdue University

Dr. Pajor concludes the statement is “misguided.”



close x



View this expert's research

Patricia Hester, Ph. D.,
Professor of Physiology, Poultry
Purdue University

Dr. Hester concludes the statement is “misguided.”



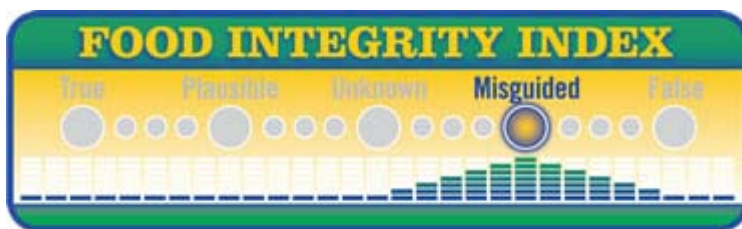
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View this expert's research

Emily Patterson-Kane, Ph. D.,
Animal Welfare Scientist
American Veterinary Medical Assoc.
Animal Welfare Division

Dr. Kane concludes the statement is “misguided.”



close x

summary



Are large farms bad for the environment?

Manure from farm animals when used as fertilizer improves soil and increases crop yields. It can become a pollutant if it reaches water supplies.

Farm animal production in the United States has clearly shifted away from many small farms to an increasing number of larger farms. It takes several small farms to equal the manure production of a single large farm. On the large farm, the manure management responsibility lies with only one management system instead of several.

Research shows larger farms use more comprehensive manure management practices than smaller farms. Larger farms must comply with stricter regulations than smaller farms and are often more able to employ people or hire consultants who specialize in manure management issues.

Research suggests that large farms as a group may practice better manure management than smaller farms as a whole.

The experts researched the statement:

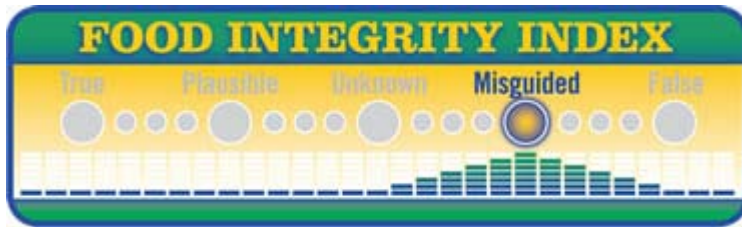
Large farms are bad for the environment.



[View this expert's research](#)

Robert T. Burns, Ph.D. P.E.,
Professor of Agriculture & Biosystems Engineering
Iowa State University

Dr. Burns concludes the statement is “misguided.”



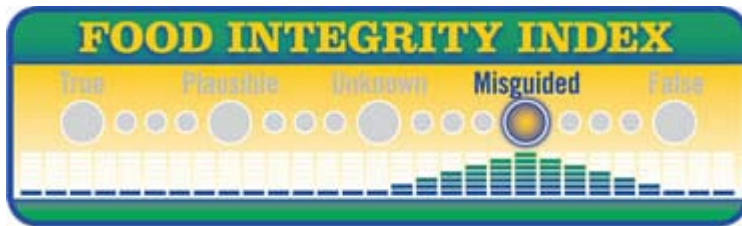
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View this expert's research

Larry D. Jacobson, Ph.D., Professor Bioproducts & Biosystems Engineering Department
University of Minnesota

Dr. Jacobson concludes the statement is “misguided.”



close x

summary



Do Americans pay less for their food than consumers in any other country?

Because the United States has such a large, affluent population, we spend more on food ([\\$833 billion in 2007](#)) than all other countries except China. But the average American spent only 6 percent of their money on food purchases, which is the lowest in the world.

While the average U.S. consumer spent [\\$2,762 for food in 2007](#), which is one of the higher levels globally, only [9.8 percent](#) of their disposable income was spent on food and beverage.

Because of inflation, a growing population, and increased consumption per person, the total amount Americans spend on food increases in most years. The last year total U.S. food expenditures were down was 1949.

The experts researched the statement:

Americans pay less for their food than any other country.



[View this expert's research](#)

Ron Plain, Ph.D.,
Professor of Agricultural Economics
University of Missouri-Columbia

Dr. Plain concludes the statement is “true” as a percentage of disposable income.

Dr. Plain concludes the statement is “false” when considering total dollars spent on food.



Close X

Nation	Food as portion of total expenditures
U.S.A.	6.0%
United Kingdom	7.6%
Singapore	7.8%
Germany	10.0%
France	12.7%
Japan	13.8%
Hungary	14.5%
South Korea	14.6%
Czech Republic	14.6%
South Africa	19.0%
Mexico	21.1%
Chile	22.5%
Turkey	23.3%
Brazil	24.0%
Colombia	24.9%
Bulgaria	26.0%
Russia	27.1%
India	31.5%
Romania	31.5%
China	34.0%
Morocco	35.3%
Vietnam	36.1%
Philippines	36.2%
Ukraine	39.6%
Indonesia	43.3%

Year	Percent		Year	Percent		Year	Percent
1929	23.4		1956	18.1		1983	12.5
1930	24.2		1957	18.4		1984	11.9
1931	23.0		1958	18.4		1985	11.7
1932	23.0		1959	17.8		1986	11.6
1933	25.2		1960	17.5		1987	11.5
1934	24.2		1961	17.1		1988	11.0
1935	23.4		1962	16.5		1989	10.9
1936	21.8		1963	16.0		1990	11.1
1937	21.5		1964	15.4		1991	11.2
1938	22.1		1965	15.1		1992	10.6
1939	21.3		1966	14.8		1993	10.8
1940	20.7		1967	14.1		1994	10.7
1941	19.4		1968	13.8		1995	10.6
1942	18.6		1969	13.7		1996	10.4
1943	18.6		1970	13.9		1997	10.4
1944	18.4		1971	13.4		1998	10.1
1945	19.2		1972	13.5		1999	10.2
1946	21.6		1973	13.3		2000	9.9
1947	23.5		1974	13.6		2001	9.9
1948	22.3		1975	13.8		2002	9.8
1949	22.1		1976	13.6		2003	9.8
1950	20.6		1977	13.4		2004	9.7
1951	20.9		1978	13.4		2005	9.8
1952	20.8		1979	13.4		2006	9.8
1953	19.9		1980	13.2		2007	9.8
1954	19.6		1981	13.0			
1955	18.6		1982	12.6			

summary

6

Is organic food better for your health than non-organic food?

For the average American consumer, the term “organic” has a positive connotation and the beneficial properties of organic foods may be [misinterpreted or exaggerated](#). [Surveys](#) indicate many proponents of organic food production look beyond the final product to consider factors such as environmental impacts, worker safety, and economic considerations which are not related to organic production standards. U.S. consumers frequently have the choice between purchasing organic and conventional foods and make food purchasing decisions that reflect their values, concerns, and lifestyles.

Studies show conventional foods may contain more pesticide residue than organic, but organic foods should not be considered to be pesticide free. Most health professionals consider the risks from pesticide residues in the diet to be negligible and consuming organic foods is unlikely to result in health benefits.

For optimal health, consumers should continue to eat a [balanced diet](#) regardless of whether the food is produced by organic or by conventional practices.

The experts researched the statement:

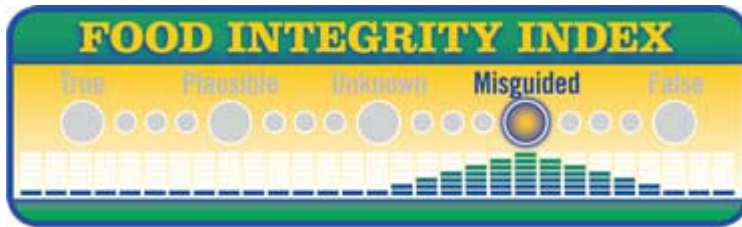
Organic food is better for your health than non-organic food.



View this expert's research

Carl K. Winter, Ph.D., Director, FoodSafe Program, Extension Food Toxicologist,
University of California, Davis

Dr. Winter concludes the statement is “misguided.”



close x



View this expert's research

Francisco Diez-Gonzalez, Ph.D., Associate Professor of Food Safety Microbiology
University of Minnesota

Dr. Diez-Gonzalez concludes the statement is “unknown.”



close x

summary



Is meat from grass-fed cattle safer than meat from cattle that are fed corn?

Even corn-fed [beef cattle](#) spend most of their lives eating grass. High-corn diets are only fed in the final finishing phase of production. Whether cattle are raised in pastures or fed corn in feedlots, [studies](#) show a similar prevalence of E. coli bacteria.

Regardless of the diet animals are fed, everyone in the food system should employ good food [safety practices](#). This includes processors, retailers and restaurants and consumers who should always follow safe food handling guidelines.

The experts researched the statement:

Meat from grass-fed cattle is safer than meat from cattle that are fed corn.



[View this expert's research](#)

Susan Brewer, Ph.D., Professor, Food Science, University of Illinois

Dr. Brewer concludes the statement is “unknown.”



[close x](#)



[View this expert's research](#)

James S. Dickson, Ph.D., Department of Animal Science, Inter-Departmental Program in Microbiology, Iowa State University

Dr. Dickson concludes the statement is “misguided.”



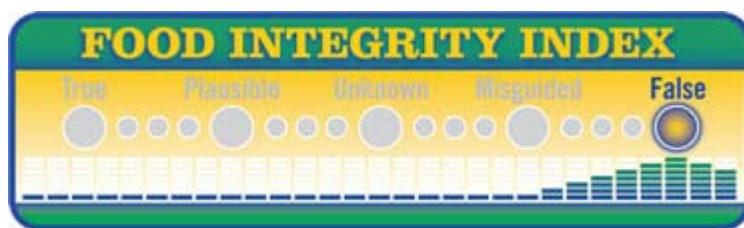
[close x](#)



View this expert's research

Jude L. Capper, PhD, Assistant Professor of Dairy Sciences, Washington State University

Dr. Capper concludes the statement is “false.”



close x

summary



Does contract production put farmers at an economic disadvantage and harm farming communities?

Like other business owners, farmers have different skills, expertise, financial positions, and appetites for risk. Reducing costs and risk through contracts allows a farmer to establish a steady income source that is attractive to traditional farm lenders.

In [contract production](#), the farmer is responsible for construction of the barns and the day-to-day labor while someone else, either another farmer or a company, provides the animals and feed. Producers are paid a set fee to care for the animals regardless of market prices.

Paying the farmer a set fee reduces the economic risk when the market is down but also the opportunity when the market is up. Farmers who enter into production contracts generally have more stable incomes but at a lower level until initial construction is paid for when net income increases. This might be compared to paying an insurance premium to avoid bad outcomes.

Because farms with limited means to improve or expand often seek off-farm income, contract production could be considered a contributor to individual farm economic sustainability. Research shows growth of modern livestock and poultry production in the United States has resulted in significant economic benefits to rural communities in terms of farm income, employment opportunities, and tax revenues.

The experts researched the statement:

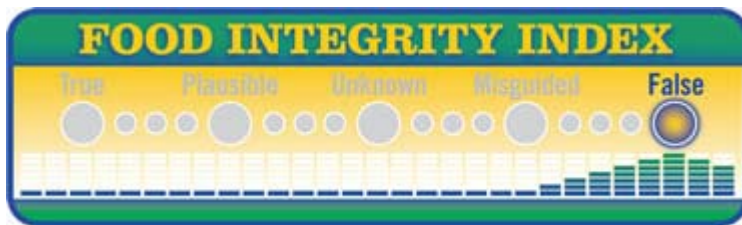
Contract production puts farmers at an economic disadvantage and is not good for farming communities.



[View this expert's research](#)

Jude L. Capper, PhD, Assistant Professor of Dairy Sciences, Washington State University

Dr. Capper concludes the statement is “false.”



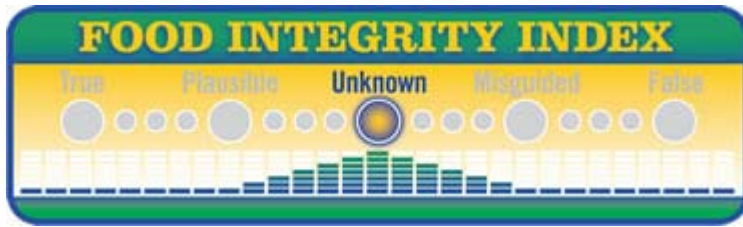
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[View this expert's research](#)

Ken Foster, Ph.D., Professor of Agriculture Economics, Purdue University

Dr. Foster concludes the statement is “unknown.”



close x

Fun Farm Facts

- Mature turkeys have more than 3,500 feathers.
- There are 47 different breeds of sheep in the U.S.
- Pork is the most widely eaten meat in the world.
- The average person consumes 584 pounds of dairy products a year.
- Elevators in the Statue of Liberty use a soybean-based hydraulic fluid.
- Like snowflakes, no two cows have exactly the same pattern of spots.
- The longest recorded flight of a chicken is 13 seconds.
- The average dairy cow produces seven gallons of milk a day, 2,100 pounds of milk a month, and 46,000 glasses of milk a year.
- Turkeys originated in North and Central America, and evidence indicates that they have been around for more than 10 million years.
- Agriculture employs more than 24 million American workers (17% of the total U.S. work force).
- Today's American farmer feeds about 155 people worldwide. In 1960, that number was 25.8.
- One pound of wool can make 10 miles of yarn. There are 150 yards (450 feet) of wool yarn in a baseball.
- Soybeans are an important ingredient for the production of crayons. In fact, one acre of soybeans can produce 82,368 crayons.
- The heaviest turkey ever raised weighed 86 pounds, about the size of an average third-grader.
- It is possible to lead a cow upstairs but not downstairs, because a cow's knees cannot bend properly in order to walk down.
- Cows have four stomachs and can detect smells up to six miles away!

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