

# *American Egg Farming*

*How We Produce An Abundance of  
Affordable, Safe Food*



*And*

*How Animal Activists May Limit Our  
Ability To Feed Our Nation and World*



## *Introduction*

We hope this brochure will give you a better understanding of the egg and the evolution of today's modern egg farming. We hope to convey the changes egg farmers have made through the years to meet the changing market and some of the positive things our farmers do to provide safe food while being good stewards of the environment and treating animals with care.

First we must recognize that farmers are hard working people that get up each day knowing that their role is to produce an abundance of affordable, safe food. We appreciate the opportunity to tell our story of *American Egg Farming*.

## *Evolution of Modern Egg Farming*

In 1900 there were approximately 76 million people in the United States, of which approximately 44% (33 million) were involved in agriculture. It is likely that most every farm had some chickens for both egg and meat consumption. *Poultry Tribune* magazine reported there to be over five (5) million farms with egg producing hens in 1900. By the year 2000, the U.S. population had grown to 280 million people of which only about 2% (5.6 million) were involved in agriculture.

*Poultry Tribune* magazine referenced 1900 egg production by writing the following: “*The bulk of commercial eggs – probably 90% of the entire production – is produced on general farms as a side-line or by-product. The flocks usually consist of 100 to 300 birds, which range freely around the farm buildings and pick up a large part of their feed from waste grain, weed seeds and insects. The work connected with the birds is done by women and children, and poultry is usually regarded as a source of “pin money” for the housewife. Marketing of eggs under these circumstances is through the general store or the traveling huckster who drives from farm to farm.*”

As late as the 1940's, small backyard flocks of chickens made up the majority of the egg producing industry. After these chickens laid a relatively few eggs, they were consumed for meat. These hens entered into a molt during winter months and stopped producing eggs. Consumers wanting to purchase eggs during the winter months had to receive them from cold storage, which quite often meant nothing more than simply the farmer's basement or an icehouse. The eggs could be several weeks old by the time the consumer actually received them. Today, eggs are refrigerated from the point of production through delivery to your home or restaurant and are cleaner and fresher than they have ever been.

Backyard chickens, continuously subjected to disease, freezing or heat stress, predators, poisoning, and infighting had a precarious existence and a normal mortality rate of 40% per year. Average yearly egg production was little more than 100 eggs, of which many were contaminated by the microbes from poultry diseases. Today, in modern egg farming, the annual flock mortality is about 5% with each hen producing about 265 eggs per year.

With the migration of families from the farm to urban areas, egg farming needed to change like all of animal agriculture. Modern egg farming was born in response to this demand.

To meet a changing market, farmers needed to upgrade their production facilities while keeping in mind the health and welfare of their birds. They also recognized the need to deliver eggs to the market in the most economical and quickest manner possible. The modern cage system was found to be a system that could meet both requirements in a commercial market.



The modern cage system has eliminated most diseases of the 1940s, provided the hens with protection against the weather (environmental controlled housing) and predators, while also improving food safety, the environment (air and water), and animal welfare. The first widespread acceptance of the cage system began in the mid-to-late 1940s. Trade journals and books in the 1950s reported that the cage became popular to improve sanitation practices. Housing hens in cages removed the bird from exposure to its own feces, and eliminated many feces-related parasite and health problems. The journals continued to say that as a result of caging, flock nutrition could be better managed, wastes could be handled more effectively, and eggs could be kept cleaner and safer for the consumer.

With fewer farmers to produce eggs and a growing demand, egg farmers needed to find ways in which to manage more birds in the most efficient manner, while using fewer land resources. To a large degree, modern poultry housing and husbandry practices were researched by land grant colleges and universities and have been adopted by the farmers. This research is forever ongoing and egg farmers continue to make changes as credible scientific research provides more answers.

Agriculture is not alone in trying to find ways to meet market demand. In fact, the major cause of egg farming being consolidated into fewer but larger farms was the consolidation of retail grocery and restaurant chains. The few remaining small family farms could no longer produce and provide the quantity and quality of product that the retail market now demanded with the required rapid delivery at the lowest price possible. In order to meet this new market, egg farmers needed to grow to the size and scale required by their customers. Today, there are approximately 235 egg farmers with flocks of 75,000 hens or more. These farmers care for about 95% of the approximate 290 million laying hens in the United States.

Modern egg farms operating in a free market system with no government assistance programs require large capital investments. While these farms have grown to meet the market demand, they are still classified as “Family Farms” with the owner still being on the farm making day-to-day decisions.

## *Animal Welfare*

Egg farmers sincerely care about the welfare of their chickens and completely understand that poor husbandry practices will result in higher mortality and fewer eggs.

However, with fewer people having an understanding or relationship with farming and a growing public discussion about the well being of laying hens, the industry's trade association, **United Egg Producers (UEP)** began to question whether there was a need for an independent review of our industry production practices.

To achieve an independent assessment of U.S. egg farming, **UEP** established a mission, which included: (1) A scientific approach to animal welfare guidelines; (2) guidelines that are driven by the industry rather than government mandates or legislation; (3) guidelines that created a level playing field for both egg farmers and our customers.

The process for this review began with a meeting with Dr. Jeffrey Armstrong (Dean of Agriculture and Natural Resources at Michigan State University), asking if he would be interested in forming his own scientific committee of which he could select all the members without pay. In 1999 Dr. Armstrong assembled his committee comprised of government officials, academicians, scientists, and humane association executives. While in following years there have been a few changes in the makeup of the committee, they have remained engaged and continue providing UEP with recommendations.

The committee reviewed all available peer-reviewed scientific literature, visited egg farms, breeder companies, and equipment manufacturers. They considered all egg production systems (cage and non-cage) but since approximately 95% of U.S. egg-production in the U.S. was in conventional cage systems, the logical starting point was the development of recommendations to ensure welfare guidelines for cage production.



In the fall of 2000, Dr. Armstrong's committee presented their recommendations for major and costly animal husbandry changes. **UEP's** Board of Directors approved the recommendations and embarked upon a plan to put those guidelines into an industry program that could voluntarily be implemented by egg farmers.

Recognizing the need to have support from our customers, **UEP** presented the science-based guidelines to the Food Marketing Institute (association of retail grocers) and the National Council of

Chain Restaurants (association of fast food restaurants) and received their endorsement. Mutually, it was agreed that we did not want there to be any market disruption. Therefore an agreement was reached to phase-in the guidelines that dealt with space items over a six-year period. Otherwise, egg farmers would have had to destroy 57 million hens. The phase-in period allowed time for new houses to be built to replace the number of hens lost in each existing building.

UEP launched the UEP Certified program in April 2002. Complete details of the program can be found at [www.uepcertified.com](http://www.uepcertified.com).



Today, more than 80% of all eggs produced in the United States are produced under the UEP Certified guidelines. Any egg farmer desiring to be recognized and market eggs as UEP Certified must implement the scientific guidelines on 100% of their flocks. An auditing program was established to assure each farmer's compliance with the guidelines. USDA's Agricultural Marketing Service (AMS-Poultry Programs) and Validus Services conduct the audits based upon procedures written by them.

The UEP Certified program is now recognized as a leader among all of animal agriculture worldwide in the establishment of science-based guidelines. The International Egg Commission (an organization of most every major egg producing country in the world) has endorsed the UEP guidelines as the model for creation of guidelines for egg-laying hens.

The Governor of Georgia and the Senate of Pennsylvania have issued citations recognizing UEP and the nation's egg farmers for their proactive efforts in improving animal welfare.

## *Animal Activist Challenges*

Animal rights activist groups, primarily the Humane Society of the United States (HSUS) and PETA have launched campaigns to eliminate the modern cage-egg production systems. They have brought pressure on the retail grocery, restaurant, and university dining as means to force a change in the market. They have introduced state legislation in many states, of which they have been unsuccessful up until their push for a ballot initiative in California in November 2008.

HSUS was successful in misleading voters in California with the Proposition 2 vague ballot language. The law, scheduled for implementation by January 1, 2015 will require that all hens have the ability to "*fully extend their wings without touching the side of an enclosure or other egg-laying hens.*" Based upon the wingspan of a chicken and their prohibition of touching one another, this language will virtually require that all egg-laying hens be returned to the production practices of the 1940s and possibly the only system allowed would be free-range. This law will be bad for the health and welfare of the birds as well as for consumers. It will be bad for the birds because it will return farming back to the time of diseases that have long been controlled or eliminated. It will be bad for consumers in that it will severely increase prices and pose the potential for food safety concerns. Based upon the USDA weekly retail shell egg feature report for 17,000 grocery stores

across the country, we find that in 2008 the average price for cage produced eggs was \$1.36 versus \$2.79 for cage-free and \$3.71 for organic.

A study conducted by the University of California Agriculture Issues Center concluded the following when Proposition 2 becomes law: *“Our analysis indicates that the expected impact would be the almost complete elimination of egg production in California within the five-year adjustment period. Non-cage production costs are simply too far above the costs of the cage systems used in other states to allow California producers to compete with imported eggs in the conventional egg market. The most likely outcome, therefore, is the elimination of almost all of the California egg industry over a very few years.”*

An economic study conducted by Promar International on the potential impact of Proposition 2 provided the following: *“We estimate that egg production costs under the conditions dictated by the proposed legislation would be higher than in a modern cage system by 33 cents per dozen or 76% using a University of California costing method. Industry cost accounting systems show an even greater differential. Even without normal markups along the distribution chain such increases would result in a cost structure for California producers that would not be competitive with that of eggs imported from other states. The result will be that most of the California egg farms will go out of business.”*

Egg farmers and UEP’s Scientific Advisory Committee understand that hens in non-cage systems have higher mortality rates, lower rates of egg production, and require more feed to produce a dozen eggs (poor feed conversion). If the HSUS agenda and the requirements of Proposition 2 were spread across the nation, we have estimated that the U.S. egg industry would need 15 million more hens to produce the same number of eggs for the market. We have also estimated that 700,000 additional acres of corn and soybeans will be needed to provide the feed for these hens. Another way to understand the scope of the problem is to recognize that an additional 2.1 billion pounds of feed would be fed to the chickens to produce the same number of eggs. To convert commercial egg farming from the conventional science-based cage systems to a non-cage system, on a national basis, would require the estimated construction of 15,000 additional poultry houses. In total, it is estimated the costs to egg farmers to convert to a non-cage system would be approximately \$8 billion, which ultimately must be passed on to consumers.

Bird health and welfare is not necessarily improved in non-cage systems. In fact UEP’s independent Scientific Advisory Committee identifies additional disadvantages of non-cage systems as:

- Increased risk of feather pecking and cannibalism
- Increased risk of death by smothering
- Increased risk of external and internal parasites
- Increased concentrations of ammonia
- Increased difficulty in inspecting individual birds and catching.



These observations are confirmed in a Swedish study that found that free-range or non-cage barn systems had higher mortality, higher rates of bacterial infection, greater problems with birds pecking each other, and more mite infections.

UEP's Scientific Advisory Committee has acknowledged that the "conventional" cage does not allow birds to perch, dust bathe, or have greater freedom of movement.

Legislators and the public really need to understand the ultimate mission of HSUS, PETA and other vegan organizations. This ultimate mission is the elimination of animal agriculture.

The real impact of a national type Proposition 2 could be a severe reduction in the number of hens resulting in a severe reduction in the number of eggs produced in this country. Likely, eggs would be produced at far less cost in other countries and imported thereby causing even greater concerns for food safety and food security.

This type of legislation would likely impair egg farmers ability to produce an abundance of affordable, safe food and potentially contribute to even greater hunger among our citizens and beyond. And this is just the US egg industry. What if the animal activists are successful in forcing "their agenda" on all of animal agriculture? The negative impact on the environment and the price of animal protein to the consumer would be impossible to predict.

We invite you to investigate where the millions of dollars contributed to HSUS and PETA are actually spent. We believe you will learn that they are not supporting animal shelters or helping pets. We believe you will find them promoting a vegan society.

## *Feeding A Hungry World*

Former Senator George McGovern and Marshall Matz who both serve on the Board of the World Food Program wrote opinions in a Chicago Tribune story on January 4, 2009. To confirm their concern about *feeding a hungry world*, we will reference the following quotes:

*"Norman Borlaug, a Nobel Laureate and father of the Green Revolution, has concluded that the world will have to produce more food in the next 50 years than it has in the last 10,000".*

*"There is an important role for organic agriculture and, indeed, some consumers are willing to pay a premium for foods that are certified as organic. Commercial agriculture is still the backbone of the economy in most rural counties across the nation. We do not yet see the yields with organic agriculture that would feed a hungry planet of almost 7 billion people".*

*"America's farmers have become so efficient that 1% of the population can feed the entire country and much of the world. One of the downsides of this efficiency is that consumers have forgotten where our food comes from and what it takes to get our bounty into supermarkets".*

*“We need to get beyond ideology and depend more on science. We need to develop a new understanding of agriculture based on our larger goals if we are to craft a long-term food and farm policy that works. Agriculture has a responsibility to adjust and contribute to improving the environment. But let’s stick to science and avoid an ideological debate about agricultural practices”.*

We agree with McGovern and Matz. We must recognize that “organic” or free-range production is not sustainable and cannot replace the farming practice, which currently produces the abundance of affordable, safe food to feed the world’s population that Dr. Borlaug envisions.

It is reported that there are nearly 1 billion hungry people around the globe. The U.N. projects the world’s population will reach 9+ billion by mid-century and has called for a 100 percent increase in world food production by 2050.

If the anti-animal agriculture agendas of the Humane Society of the United States (HSUS) and PETA are not stopped then we will see agriculture return to production practices that cannot feed the current population and certainly not the population Dr. Borlaug and the U.N. has estimated.

## *Environment*

Egg farmers, like all of animal agriculture, understand the importance of being good environmental neighbors and protecting the environment. Good stewardship of the land and all environmental resources is and has always been extremely important to farmers because of the renewable rewards.

For many years, manure from animals was the only source of fertilizer for grain crops, pasture and gardens. To some extent, farmers kept animals in part because of the need for this fertilizer to increase the yields of their crops.

In more recent years the urban population moved farther and farther from the cities and acquired farm land for the development of sub-divisions, shopping malls, office buildings, etc., Not only did this reduce the available acres for farming but also created what some people now viewed as an uncomfortable environment. The new neighbors to the farm were far more concerned with farm odors and less understanding than farm neighbors. To many, this was their first experience with the smells of animal farming.

Today, the environments inside modern laying-hen houses are meticulously controlled to ensure or maximize bird comfort and worker’s health. The environmental control and thus bird comfort are achieved by (a) providing ample amount and uniform distribution of fresh air through properly engineered ventilation systems, (b) cooling of incoming air during warm weather, (c) automatic adjustment of ventilation rates to attain the desired indoor air temperature and humidity during cold weather.

Since 2004 **United Egg Producers** has commissioned an Environmental Scientific Panel (ESP) to address air quality. The mission of ESP is to serve as a clearinghouse for the egg industry on issues concerning air quality research and information, and to seek practical means to mitigate air emissions associated with egg operations. The ESP has identified both short-term and long-term research priorities.

## *Egg Safety*

U.S. egg farmers produce the safest and highest quality eggs in the world. Individual farmers and the industry, working cooperative have established programs that assure food safety and high quality. Egg farmers have a long history of working with the various Federal and State agencies to protect the safety of all eggs produced for domestic and foreign consumption. Under authority of Federal law, USDA inspects egg-packing plants to determine that only eggs meeting Federal standards are sold to consumers. USDA and FDA regulations require that shell eggs be refrigerated after packaging and throughout the distribution chain. In addition to USDA and FDA regulations, all states administer their own state egg laws, which also provide for routine inspections of egg farms.

In the U.S., relatively few antibiotics are permitted in egg laying chickens. Where permitted, they are used on a limited basis, generally for therapeutic reasons. Any antibiotic use in egg laying chickens is subject to specific withdrawal periods prior to the marketing of eggs from involved flocks.

As part of its effort to further assure a safe food supply, the FDA has proposed an encompassing egg safety program to assure that Salmonella is not present in shell eggs. **United Egg Producers** has conceptually supported the proposed FDA “egg safety” program and worked with Congress, consumer advocacy groups and FDA to secure the most effective program possible. The industry, while awaiting for publication of the rule in its final form (and hoping that FDA accepts the suggestions UEP made for improving the original proposal), has already implemented most of the training, testing, and biosecurity measures outlined in the proposed rule. In fact, the FDA based its egg safety rule in large part on plans put in place several years ago in several major egg producing states. These intensive plans have made significant progress toward eliminating Salmonella as a concern in eggs.

All liquid, frozen and dried egg products manufactured in the U.S. are subject to continuous inspection by the USDA Food Safety and Inspection Service (FSIS). Since implementation of mandatory egg products inspection in 1971, the CDC has never linked an outbreak of food-borne illness to egg products. FSIS officials have recently noted that they do not consider egg products a high food safety risk.

## *Animal Disease Control Programs*

Egg farmers have long participated in several very successful Federal and State programs designed to monitor, detect, control and eradicate poultry diseases found in egg layers. In recent years, outbreaks of “bird flu” in several parts of the world have raised concern about the spectra of a pandemic flu in humans caused by influenza in wild and domestic poultry. Cases of human influenza illnesses and deaths linked to avian influenza have been in countries that still use production practices long abandoned by commercial egg farmers in the U.S. (free-range flocks). Still, U.S. egg farmers have concern that the



highly pathogenic avian influenza (HPAI) present in some Asian and European countries could “fly-in” to our country via infected migratory birds or “walk-in” via a traveler infected with the disease.

Egg farmer participate in the National Poultry Improvement Plan (NPIP), a cooperative effort between USDA, APHIS, Veterinary Services, states and industry to improve the quality of poultry and poultry products by eradicating a number of poultry diseases. Through the NPIP, avian influenza viruses that have shown the potential to become highly pathogenic are monitored in commercial flocks throughout the U.S. Over the last few years, egg farmers again worked with USDA, state and private animal health professionals to establish and maintain an important early-warning program for the control of avian influenza.

## *The Egg’s Nutritional Value*

Eggs have always been a key component of American’s diet. In fact, until we became primarily an urban society, always rushing to get to our jobs and classrooms, eggs were on the breakfast table each day for almost every man, woman, and child. Eggs provided the energy for a hard working day. While lifestyles have changed, eggs remain one of the single most nutritional and enjoyable foods today. In fact, each American consumes approximately 250 eggs per year. Approximately 70% of egg consumption is in the form of shell eggs and 30% in egg products. You probably are not aware of all the ways in which you consume eggs. Within the egg products sector of our business, many eggs are used as an ingredient in the manufacturing of other food items such as cakes, pasta, etc.

Eggs are a low-cost source of high-quality protein. Protein in the diet supplies nitrogen and amino acids that are needed to synthesize proteins in the human body. Eggs are used as the reference standard for measuring protein quality. As a recent article in the professional journal *Nutrition Today* put it: “There is no higher quality protein than that provided in eggs.”

Eggs also promote satiety – feeling full, not hungry. Studies have shown that when on a weight control diet eating an egg helps avoid the mid-morning hunger that can lead to excess snacking. Thus, eating eggs may help promote weight loss while providing a wide array of healthy nutrients.

Egg yolks are an excellent source of choline, an essential nutrient that contributes to fetal brain development and helps prevent birth defects. Scientists are increasingly aware of the importance of choline, especially for pregnant women, and eggs are among the relatively few excellent sources. Choline also aids in brain function of adults by maintaining the structure of brain cell membranes, and is a key component of the neuro-transmitter that helps relay messages from the brain through nerves to the muscles.

Eggs provide small amounts of lutein and zeaxanthin, two nutrients which are part of the carotenoid family and contribute to eye health and help prevent and even slow the progression of common causes of age-related blindness, such as macular degeneration.

Speaking of the nutritional value of eggs, did you know besides providing energy from protein and fat, one large egg also contains levels of several B vitamins, including thiamin, riboflavin, folate, B12 and B6, needed for the body to produce energy? Because the protein in eggs is rich in the amino acid leucine, it plays a role in regulating blood sugar and helping muscles use energy efficiently. Eggs provide energy without causing a sudden rise in blood sugar or insulin levels, which can ultimately cause premature fatigue.

So farm families long ago knew about the importance of eggs in providing them the energy for a hard-working day. While most of us may not be farm workers today, it does not change the fact that we all need as much energy as possible to get through our busy days.

## *Visit An Egg Farm*

We invite you to visit a modern commercial egg farm by going to [www.usaeggfarming.com](http://www.usaeggfarming.com). Here you will have an opportunity for a tour of the farm, hear the farmer's story as well as learn from others including scientists familiar with modern egg farming.



## *Modern Cage Egg Facts!*

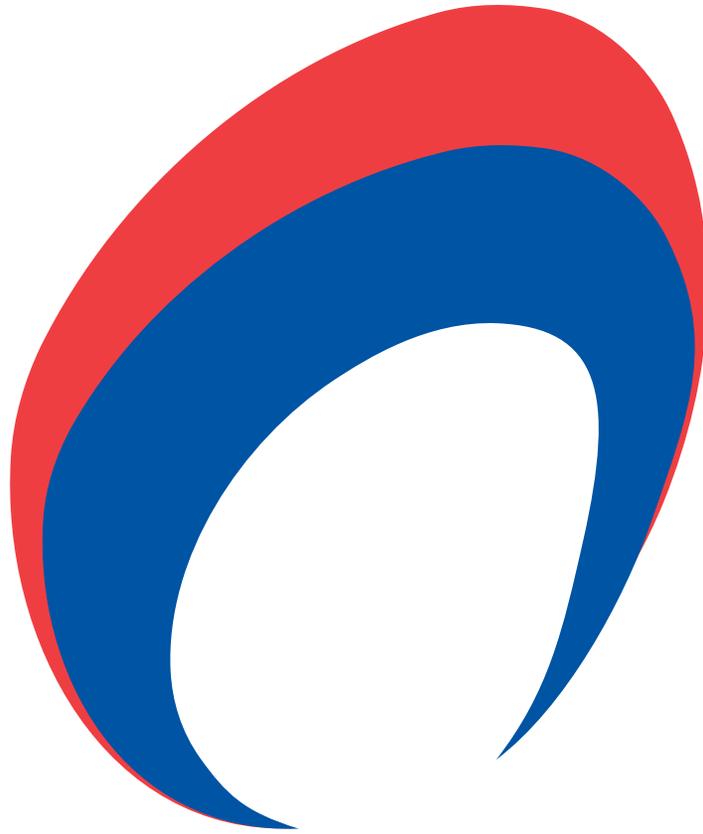
- ✓ Hens raised in cage systems typically have fewer diseases and require less medication, only receiving drugs for therapeutic reasons.
- ✓ UEP Certified standards provide sufficient cage space requirements for each hen. These science-based standards have significantly increased the amount of space provided to each hen.
- ✓ Modern cage systems allow for daily inspection and monitoring of hens for illnesses and quick treatment. Modern cage systems provide for better overall bird health and welfare.
- ✓ Modern cage systems allow hens to stand comfortably, turn around, lie down, groom and stretch their wings. Hens protected in these modern housing systems tend to have fewer diseases and lower mortality rates.
- ✓ Eggs from modern cage production are considerably less expensive than non-cage eggs.
- ✓ Modern cage systems allow for cleaner, safer eggs and provide a more stable supply to meet consumer demand.
- ✓ Modern cage systems provide hens with protection from soil and litter borne diseases, resulting in fewer health problems. Cages allow for immediate removal of feces, preventing exposure to parasites.
- ✓ Research shows that hens in modern cages do not have any greater levels of stress than free range hens.
- ✓ Research shows that eggs from modern cage systems have lower shell bacteria levels than eggs from cage-free or free range systems.





## *The Egg Industry and Animal Welfare: A Science-Based Approach*

- United Egg Producers (UEP) is a cooperative whose independent members sell about 97% of all the eggs produced in the United States.
- UEP has been a leader in forward-looking environmental, food safety and animal welfare activities.
- UEP's approach to animal welfare is based on science. An independent, unpaid scientific advisory committee recommended industry-wide guidelines for animal husbandry – science-based standards for the best ways to care for laying hens.
- More than 80% of producers have voluntarily adopted these science-based guidelines, which are known as the UEP Certified Program.
- The guidelines have been well accepted by our retail and food service customers, and provide assurance to retail consumers that the eggs they buy were produced under approved animal husbandry standards.
- Today, meat, dairy and egg producers are under fire from activist animal rights groups whose ultimate agenda is to eliminate our industries.
- Congress should resist animal welfare legislation that would harm the egg industry or other livestock, poultry or dairy producers.
- Instead, Congress should support the use of science, not emotion, to develop and implement animal husbandry guidelines in the private sector, through voluntary action by producers in response to their customers.



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