

Department of Animal Science

More Than Avian Influenza Driving High Egg Prices

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Egg prices are at record highs. Don't expect that to change, at least not for the remainder of 2025. Egg prices surged 15.2 percent in January, according to the U.S. Labor Department's consumer price index. It was the largest increase in egg prices since June 2015 (during the last major avian influenza outbreak) and accounted for nearly two-thirds of the total monthly rise in food prices, the department reported. On an annual basis, egg prices are up 53 percent. Highly pathogenic avian influenza (HPAI) is considered the main reason behind the current high price of eggs, but it is far from the only reason and things are a bit more complicated than just HPAI. It is true that HPAI is largely responsible because of the massive loss of table egg laying hens in recent months.

However, timing is playing a critical role as well. Since the start of the current HPAI outbreak in February 2022, more than 100 million table egg laying chickens have been lost. The timing of when these birds were lost has not been equally distributed. For example, during the first two months of 2025, HPAI forced the United States Department of Agriculture (USDA) to depopulate approximately 30 million table egg layers (almost 1/3 of all table egg layers lost over the past three years were lost in January and February 2025).



Figure 1. *Avian influenza and a host of other factors have driven table egg prices to record highs.*

If we go back to October 2024, table egg layer losses amount to approximately 52 million birds. More than half of the 100 million table egg layer losses over the past three years have occurred in the last five months. Normally, the number of strictly table egg layers in the United States (U.S.) national flock is around 325 million head. As of the end of February, that number stood at 291 million. That means that we are roughly 34 million hens short. With an average rate of lay of 79 percent, that is roughly 27 million eggs per day that are not being sent to the grocery store. As a result, prices have more than doubled since before the HPAI outbreak started, costing consumers at least \$1.4 billion last year (Mitchell et al., 2025). We cannot take 27 million eggs per day out of grocery stores without the price increasing. And the timing of this and the seasonal impact cannot be overlooked. This recent massive loss of laying hens has occurred at the same time as the 2024 year-end holiday baking season and the upcoming Easter-related activities now on the horizon when demand for eggs is always high, regardless of HPAI. However, there's more at work here than just avian influenza, and HPAI is not the only reason egg prices are high.

Cage-free Commitments

According to USDA (2025), roughly 123 million (42.1 percent) of all the table egg layers in the U.S. commercial layer flock are in “cage-free” production systems. This compares with only 30 million layers in cage-free systems during the last major avian influenza outbreak in 2014-15. Some analysts believe that birds in cage-free housing are more susceptible to HPAI while others think the opposite. Regardless of your opinion on cage-free housing, the huge growth in cage-free confinement was a direct result of corporate commitments to address consumer concerns and individual state legislation that gained traction in 2014-17 (Earnest, 2025). At the time, the goal of proponents of the cage-free movement was focused on meeting cage-free obligations rather than on guaranteeing future supply assurance. It was suggested in 2017 that meeting cage-free sourcing requirements by egg companies would require approximately 220 million cage-free laying hens by 2025-26 (Earnest, 2025).

Today, we are roughly 97 million cage-free layers short of those estimates. The loss of production related to HPAI outbreaks has further exacerbated this imbalance. California is one of eight states that require eggs sold in the state to be from cage-free hens. From Nov. 12-Dec. 31, 2024, HPAI-detected flocks in California resulted in the loss of more than 9 million table egg layers (roughly two-thirds of all the table egg layers in the state) forcing California residents to pay \$8.97/dozen for eggs in early January. USDA indicated that delivered prices on the California-compliant wholesale loose egg market were \$9.53/dozen at the end of February. California now has less than 5 million table egg layers in the state. USDA figures indicate that in December 2024, California produced 114 million eggs compared to 350 million in December 2020. Given that typical demand for eggs requires about one laying hen for each person in the U.S., the 39 million residents in California are relying heavily on egg production from other states to meet the state's demand.

An avian influenza break is devastating to any table egg complex, whether it is a conventional battery cage operation or a cage-free facility. Currently, whenever the virus is detected in one bird, the entire flock must be depopulated. This is done as a quick and decisive measure to prevent the virus from spreading to other birds on the same farm and other nearby flocks and potentially causing larger outbreaks. In addition, many trading partners will halt poultry imports if the U.S. can't declare freedom from HPAI. Therefore, any flock that tests positive (even if it is only one bird) is depopulated to prevent disease spread and maintain trade relationships.

However, large table egg complexes may house 1 to 5 million birds in multiple barns on one site. All these birds must be euthanized and properly disposed of. Workers lose their jobs because there are no longer eggs to gather, sort, clean, pack and ship. The farm must go through a comprehensive and lengthy process of cleaning, disinfecting and disease testing involving multiple steps and layers of government approvals before it can begin to repopulate with new flocks and return to producing eggs. The entire process may take a year or more. In addition, it takes six months to hatch a chick and raise it to an adult hen that is ready to start laying eggs. Replacing lost flocks cannot be done in days or weeks; the process takes several months to over a year. And if the new flock should break out with HPAI, which has happened numerous times, the whole depopulation, disposal, cleaning and disinfecting and replacement process must start over again. Not only is there a massive amount of federal money involved in the indemnity and cleanup process, but also the mental, physical, and emotional stress on those involved is enormous.

Multiple Avian Influenza Genotypes in Play

Further complicating the situation is the fact that HPAI is no longer just a poultry industry concern. The current avian influenza genotypes in the U.S. include H5N1 clade 2.3.4.4b genotypes B3.13 and D1.1. Genotype B3.13 is the most common genotype detected in the 70 human cases of H5N1, including those cases among poultry and dairy farm workers. It is also the genotype first detected in dairy cattle in the U.S. in March 2024. However, a new version of the virus (D1.1) emerged in wild migratory birds in September 2024 and quickly jumped to domestic poultry. In recent months, genotype D1.1 has been detected in dairy cattle in Nevada and Arizona. Genotype D1.1 has also been the predominant genotype detected in all four North American migratory bird flyways during the fall and winter of 2024-25. Genotype D1.1 has been detected in wild birds, mammals and domestic poultry. The version of D1.1 found in dairy cattle in Nevada and Arizona is closely related to other D1.1 viruses detected in wild birds and poultry. Biosecurity remains the best defense against HPAI, and farms are encouraged to practice rigorous biosecurity for the foreseeable future as there appears to be no letup in the threat from avian influenza.

Dozens of domestic house/barn cats on dairy farms have tested positive for HPAI in states where the virus also has been found in dairy cattle. Much like in domestic poultry, the illness is extremely severe in cats, often progressing rapidly to death. Recent investigations implicate food as the source of infection, most often unpasteurized milk and raw or undercooked meat (e.g., poultry), including retail pet diets containing raw meat. Cats that share homes with dairy or poultry workers in areas where HPAI is circulating also may be at risk. This reinforces the importance of keeping pets away from wild birds, raw milk or colostrum, and raw or undercooked meat and taking additional biosecurity measures (keeping pets inside) to prevent HPAI transmission.

Since the HPAI outbreak in dairy cattle began in March 2024, infection with avian influenza virus type A has been confirmed in 70 people in the United States. Twenty-four of these cases involved poultry farm workers exposed to infected poultry in Washington (11 cases), Colorado (9 cases) and Iowa, Ohio, Oregon and Wisconsin (one case each). An additional 41 cases involved dairy farm workers exposed to sick or infected cows—36 in California, two in Michigan and one each in Colorado, Nevada and Texas. Farm workers have reported symptoms

ranging from eye redness to more typical flu symptoms, such as fever, chills, coughing, runny nose and sore throat (AVMA, 2025). However, serious illnesses have occurred and one infected person with underlying health conditions has died. Based on the available information, the Centers for Disease Control (CDC) continue to consider the risk of HPAI to the general public low. The food supply is considered safe so long as consumers follow food safety guidelines. People are advised not to drink unpasteurized milk or eat unpasteurized milk-based cheese, and to properly handle and cook meat to an internal temperature of 145 F (63 C) (whole cuts of meat) and 160 F (71 C) (ground meats). This includes any meat used as pet food. Poultry should be cooked to 165 F (74 C) and eggs should be cooked to 160 F (71 C).

Lesser-known Factors

Avian influenza is largely to blame for high egg prices consumers are currently faced with. However, there are other factors making a bad situation even worse. Inflation is driving up the cost of feed, energy and labor on table egg farms. Poultry feed constitutes 60-70 percent of production costs, and feed is expensive nowadays. At this writing, May corn is going for \$4.56/bushel and May soybeans are \$10.04/bushel. Rising electricity, fuel and transportation costs directly increase production and distribution expenses. Wages, workforce shortages and supply chain disruptions affect farm operations, especially with cage-free operations that require additional manual labor. In addition, farmers and table egg companies continue to invest in additional biosecurity in hopes of keeping their flocks safe. Millions of dollars have been spent on enhanced biosecurity such as truck washing stations, busing in workers to reduce traffic flow and laser light systems to prevent waterfowl from landing near poultry barns. All these production costs are passed on to the consumer, which is no different than things have ever been. Production costs have always been passed on to the consumer.

However, add in a very limited egg supply because of HPAI and month after month of increasing consumer demand for eggs, and we are faced with record high egg prices. Consumer demand for eggs has increased in recent years, and the ruling by the U.S. Food and Drug Administration (FDA) in December 2024 that eggs now meet the updated definition of “healthy” will likely only increase that demand at a time of limited supply. According to the American Egg Board, demand for eggs has increased for 23 consecutive months. Consumers continue to demand more eggs, and the increase in restaurants that now offer all-day breakfast menus is adding to the demand. In 2023, the average consumption of eggs in the United States was estimated at 281 per person. This surging demand comes while HPAI is decimating layer flocks and severely limiting the table egg supply.



Figure 2. Egg demand continues to grow as volume of eggs sold at retail has been up year-over-year for 23 consecutive months.

In such a highly charged environment, there will be those that may suspect something more sinister or nefarious than commonsense supply and demand may be afoot, such as monopolistic behavior on the part of the nation's largest egg producers to manipulate egg prices and increase profits. Cal-Maine Foods, which supplies roughly 20 percent of the country's eggs and is the nation's largest egg producer, takes much of the heat in times like these. However, like many other table egg providers, Cal-Maine has been affected by HPAI on some of its operations, namely in Kansas and Texas.

Let's look at this from a commonsense point of view. If Cal-Maine planned to restrict the egg supply, it begs the question of why has the company spent \$250 million over three years on new expansion and conversion to cage-free housing to help meet the growing consumer demand for eggs (conventional and cage-free) and address consumer concerns related to animal welfare? The same can be said for other large players in the U.S. table egg industry such as Herbruck's Poultry Ranch, Hickman's Family Farms, Hillandale Farms, Opal Foods, MPS and Rose Acre Farms (Shane, 2025). Why would these companies invest in recent upgrades and new complex expansions with the goal of **reducing** table egg production? It makes no sense, and there is no logic in going down that road. Executives at table egg companies are very likely losing sleep at night. However, they are losing it worrying about how to better enhance biosecurity, keep their flocks safe from HPAI, increase the egg supply and keep their workers safe and employed. Common sense tells them to worry about things that matter...HPAI, biosecurity, keeping workers safe and employed, feed costs, supply chain issues and flock safety. Common sense should tell consumers to recognize the broader picture, understand that it will take some time to fix the problem, and be aware of all the factors at play.

Another behind-the-scenes factor that gets little attention is the persistent shortage of truck drivers in the United States, an increasing problem as more drivers retire and fewer individuals choose long-haul trucking as a career. Much of the freight (eggs included) moves by truck in this country. Anyone who has driven any stretch of Interstate 40 in Tennessee recently can testify to that. However, with fewer drivers to transport eggs to retailers, wholesalers are forced to raise shipping rates. Refrigerated truck transportation is a major pinch point in the food supply chain these days. The shortage of drivers, increased long-haul truck shipping rates and the fact that eggs are extremely transportation sensitive (fragile, must be refrigerated, must arrive in a timely fashion) adds to the cost per dozen.

One final factor affecting the high cost of eggs that is rarely considered is the impact that the egg-processing sector has on the egg supply in the table egg sector. Approximately 30 percent of all eggs produced are further processed into liquids and dehydrated products. These products are used as ingredients in items like salad dressings, bread, pasta, sauces, mayonnaise, baking items, other everyday food products, and for export. The egg-breaking sector has been hit disproportionately hard by HPAI, causing diversion of table eggs to egg-breaking plants and thereby reducing overall table egg supply. If the National Chicken Council's recent request to the FDA to allow surplus eggs from broiler breeder hens to go to the egg processor and be processed into egg products is granted, this would allow nearly 400 million eggs to enter the egg-breaking supply each year and allow more table eggs to be dedicated to the grocery store instead of being sent to the breaker (Oatman, 2025).

Summary

Avian influenza is the main factor driving the current high price of eggs. This will likely be the case for the remainder of the year and perhaps longer. The situation is being made worse by a host of additive factors that have evolved into a “perfect storm” to create the situation we currently face. Since October 2024, the table egg industry has lost approximately 52 million birds. More than half of the 100 million layers lost since the HPAI outbreak began in February 2022 have been lost in only four months. The timing could not have been worse as many of the losses occurred during the Thanksgiving and Christmas holiday baking season and have continued into 2025 and now threatens the high-egg-demand Easter season. Meeting cage-free requirements in several states has proved challenging, and the country is nowhere near the 220 million cage-free layers it has been estimated to take to meet sourcing demands for cage-free eggs.

The avian influenza virus continues to baffle scientists with two different genotypes now present in the population. The CDC continues to consider the risk to the human population low, although 70 people in the U.S. have been confirmed with HPAI, mostly poultry and dairy farm workers. In addition to HPAI, lesser-known factors are at work compounding the problem and making it worse. Inflation is driving up production costs that are passed on to the consumer. The demand for table eggs continues to increase at a time when the table egg supply is decreasing. Supply and demand is on full display, and egg prices continue to rise. The truck driver shortage makes it difficult to move eggs in a timely, cost-effective manner. Diverting 30 percent of the table egg supply to the egg-processing market further reduces the number of table eggs at the grocery store.

There is no quick fix to the current egg price situation. However, USDA has announced a \$1 billion strategy aimed at reducing the number of HPAI outbreaks. Despite how much everyone wants the situation to start improving immediately, this will be a marathon, not a sprint. The egg industry is aware of this, and consumers must understand that this is going to take time, and that patience will be required as we work through the challenges.

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