REPORT

The Economic Cost of Food Monopolies: The Rotten Egg Oligarchy

Inflation was already spiraling out of control when the current bird flu outbreak began in February 2022. Eggs have often led the inflation charge, today costing over twice as much as just a few years ago. Meanwhile, bird flu has now jumped to commercial dairies, infecting dozens of farmworkers along the way. Disease experts warn that future mutations or viral reassortment with the seasonal flu could unleash the next global pandemic.

The corporate food system is to blame for exacerbating the scale of the outbreak as well as the high cost of eggs. Factory farms are virus incubators, with the movement of animals, machines, and workers between operations helping to spread the virus. Meanwhile, just a handful of companies produce the majority of our eggs, giving them outsized control over the prices paid by retailers, who often pass on rising costs to consumers. This highly consolidated food system also enables companies to leverage a temporary shortage in one region to raise prices across the entire country.

Food & Water Watch (FWW) analyzed government reports on egg trends as well as corporate filings for Cal-Maine, the U.S.'s leading egg producer. We found that:

- Average retail prices for eggs in the U.S. jumped 2.5-fold from January 2022 to January 2023, reaching $4.82 per dozen. Eggs went from being a go-to animal protein to costing as much as ground beef in a matter of months.
- Egg price spikes hit regions that were bird flu-free until recently. The U.S. Southeast remained free of bird flu in its table egg flocks until January 2025, and actually increased egg production in 2022 and 2023 over 2021 levels. Nevertheless, retail egg prices in the Southeast rose alongside January 2023's national price spikes.
- Egg prices never returned to pre-outbreak levels, even after retail inventories recovered. From April to December 2023, national retail inventories of eggs exceeded the five-year average by as much as 12.8 percent. Nevertheless, average egg prices exceeded the five-year average in each month as well.
- Cal-Maine did not experience any bird flu outbreaks in its flocks in its fiscal year (FY) 2023, and actually sold more eggs than in the previous two years. Yet it still sold eggs at inflated prices (2.8 times as much for conventional eggs compared to FY 2021), pocketing nearly $1 more per dozen sold after covering its expenses. This amounted to over $1 billion in "windfall profits."
- Cal-Maine's gross profits ballooned more than seven-fold in FY 2023 compared to FY 2021. It awarded its shareholders lavish dividends totaling $250 million — 40 times more than in FY 2022.

info@fwwatch.org
202.683.2500 (DC)
510.922.0720 (CA)
foodandwaterwatch.org

MARCH 2025

- The bird flu outbreak and Cal-Maine's price increases likely helped push its stock value up, which more than doubled since the start of the outbreak. This increased the value of the portfolio of the company's board chair by over $9 million in just three years (January 2022 to January 2025), even with fewer shares controlled.

We cannot afford to place our food system in the hands of a few corporations that put corporate profit above all else. Nor can we allow the factory farm system to continue polluting our environment and serving as the breeding ground for the next human pandemic. We need to enforce our nation's antitrust laws to go after corporate price fixing and collusion. We also need a national ban on new and expanding factory farms, while transitioning to smaller, regional food systems that are more resilient to disruptions.

What Is Bird Flu?

Highly pathogenic avian influenza (HPAI), often called bird flu, is a fatal, quick-spreading strain of flu impacting domestic and wild bird populations. Symptoms include sneezing and coughing, misshapen eggs, lower egg production, diarrhea, and sudden death.[1] It also infects mammals, including humans, although the symptoms vary in severity. The virus is circulating among dairy operations, causing lethargy and reduced milk production in cows, and sometimes death.[2]

Nearly half of all confirmed bird flu infections in humans since 2003 have been fatal. And while this current outbreak has manifested in milder symptoms in humans, experts caution that there is no guarantee this will continue. For example, in January 2025, a Louisiana resident died after contracting bird flu from an infected backyard flock. The virus appeared to have mutated inside the patient and led to respiratory distress, marking the first U.S. death from bird flu in this current outbreak.[3]

The current, ongoing outbreak (HPAI H5N1) was first detected in January 2022 in wild birds in South Carolina, precipitating the largest bird flu outbreak in U.S. history. The first detection in domestic poultry (an Indiana turkey operation) occurred in February 2022, followed by 14 additional detections that month. These initial infections followed the migratory patterns of wild birds.[4] By the end of 2022, HPAI infected over 57 million domestic poultry across 47 states, with three quarters of infections occurring on commercial egg operations.[5] As of February 2025, the virus continues to infect dairy and poultry farms, as well as farmworkers.

Corporate Price Gouging

Seemingly no part of the U.S. economy is untouched by recent inflation, which rose more than 20 percent since the onset of the Covid-19 pandemic.[6] Today, the cost of feeding a family of four on a "thrifty" food plan is 50 percent higher than five years ago.[7] Yet wages have not increased at the same rate.[8] Participation in the federal food assistance program (SNAP), however, increased from 2019 levels as families struggled to afford food.[9]

Rising inflation does have beneficiaries — namely, the handful of agribusinesses behind every step of the food chain, from seeds to food processing to the supermarket. The multinational food corporation Tyson Foods took in 26 percent more revenue in 2024 compared to 2019,[10] while doubling its CEO compensation.[11] Walmart compensated its CEO nearly $27 million in 2024 — 976 times the median wage of its employees.[12] This disconnect between corporate profits and the

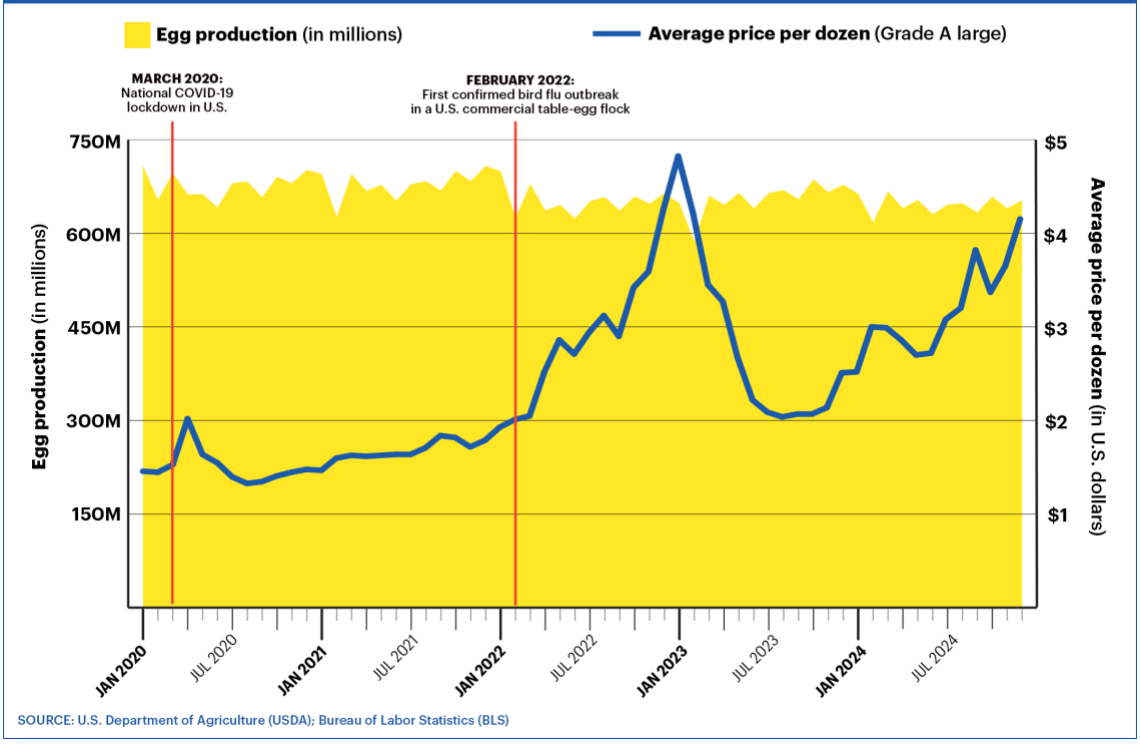
struggles of many U.S. families raises the question of whether corporations take advantage of events like the Covid-19 pandemic and economy-wide inflation to raise prices even higher.

One victim of corporate profiteering is the egg sector. Prices have fluctuated wildly since the first infection of this bird flu outbreak was detected in commercial flocks in February 2022. However, a deep dive into corporate filings and U.S. Department of Agriculture (USDA) data suggests that corporations may have used the outbreak as a smokescreen for raising prices beyond what was necessary to cover any rising costs.

The incredible, unaffordable egg

In January 2022, one month before the current outbreak was first detected in domestic poultry, a dozen eggs in the U.S. cost an average of $1.93. By January 2023, it rose to $4.82 (see Fig. 1). In a matter of months, eggs had gone from being a go-to, affordable animal protein to as expensive as ground beef.[13] People facing sticker shock at the supermarket and reading headlines about bird flu outbreaks may assume that these price spikes are all due to widespread egg shortages. However, the USDA noted early in the outbreak that the increases in prices outweighed the decreases in egg production.[14]

FIG. 1: U.S. Egg Production and Retail Prices
Monthly egg production and average price per dozen



SOURCE: U.S. Department of Agriculture (USDA); Bureau of Labor Statistics (BLS)

For example, FWW analysis of USDA data shows that the monthly U.S. egg-laying flock in 2022 never fell more than 6.7 percent from the five-year average, and monthly egg production never fell more than 5.6 percent. Moreover, in the month preceding the first detection in commercial flocks, national retail egg inventories were 22 percent above the four-year average, likely helping to buffer

upcoming production losses. Notably, per capita egg consumption in 2022 barely budged, with Americans consuming on average 3.5 fewer eggs than the previous year.[15]

Egg prices were already climbing before the Covid-19 pandemic. They spiked in March 2020 (when U.S. lockdown began) as well as several more times in following years, as the bird flu outbreak evolved. Meanwhile, drops in egg production were not nearly as dramatic as these wild price spikes suggest (see Fig. 1).

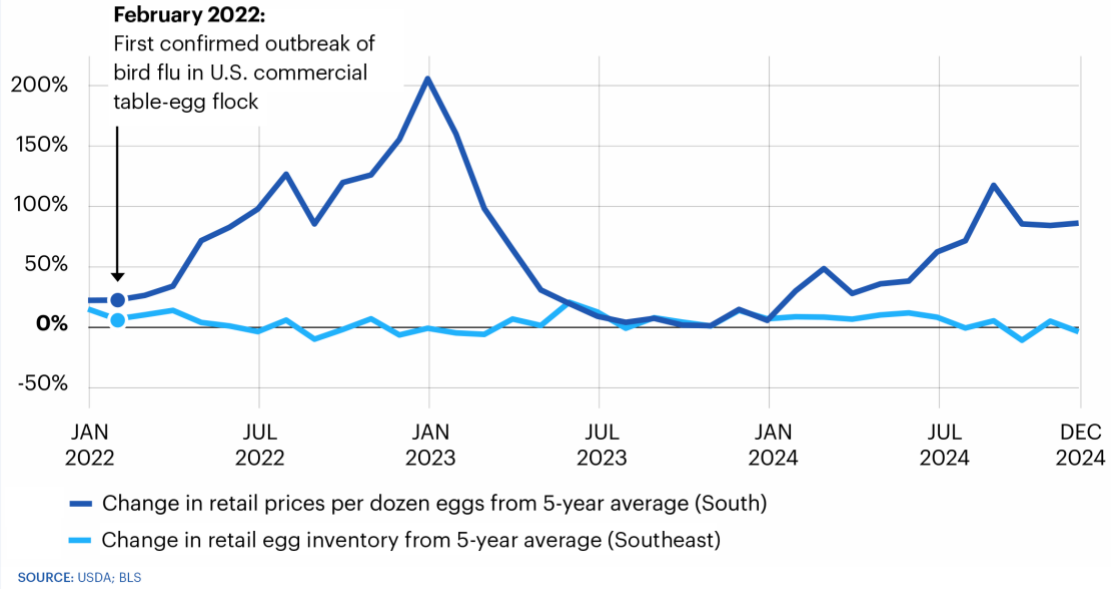
Regional shortages, national price spikes

While consumers across the U.S. experienced price shocks, supply disruptions were not evenly spread. The U.S. Southeast remained free of bird flu outbreaks in its table egg flocks until January 2025. The region produces roughly 7 percent of the nation's table eggs and actually increased production in 2022 and 2023 over 2021 levels. In January 2023 — when the U.S. Bureau of Labor Statistics (BLS) reported the second highest average egg prices of all time— the Southeast's retail egg inventories remained virtually unchanged from the five-year average.

Regardless, egg retail prices in the region, as reported by the USDA, follow national trends. FWW found that consumers in the Southeast paid an estimated $2.99 per dozen eggs in the third week of January 2023, slightly higher than the national average reported by the USDA that week ($2.92) and over two-and-half times the five-year January average for the Southeast. Similarly, BLS inflation data for the South[a] reported its highest ever average egg price at $4.78 per dozen, just below the national average of $4.82 (see Fig. 2).

FIG. 2: Egg Price Spikes Hit Regions With Stable Retail Inventory

Changes in five-year averages for retail egg prices and inventory, U.S. South/Southeast



SOURCE: USDA; BLS

a BLS's South region contains all states in USDA's Southeast region, plus 7 additional states and the District of Columbia. Only three counties in BLS's South region (two in Maryland and one in Delaware) had experienced confirmed bird flu outbreaks in commercial table-egg flocks by January 2023.

Overall, national egg inventories in January 2023 fell just 4 percent from the five-year average, with only the Southwest and Northwest regions facing steep shortages (down 15 percent and 41 percent, respectively). In contrast, the Northeast's retail inventories were up 11.5 percent from the five-year average. Even so, consumers there paid around $3.99 per dozen in the last week of January 2023, according to USDA data.

High egg prices are here to stay

The year 2023 was relatively uneventful for commercial table egg flocks, with no reported outbreaks of bird flu from January through October. Flocks began to recover, and national retail inventories replenished. From April to December 2023, the national average retail inventories for Grade A eggs each month exceeded the five-year average by as much as 12.8 percent. Nevertheless, while egg inflation cooled from the previous spikes, average national prices reported by the BLS still exceeded the five-year average each month from April to December, by between 8 and 68.5 percent. The BLS's Midwest and South regions similarly saw prices exceed five-year averages by as much as 62.3 and 63.5 percent, respectively.

Egg inflation began climbing again in 2024, as the table egg flock decreased and production fell, likely due to a resurgence of bird flu outbreaks.[16] The Northwest and Southwest experienced significant declines in retail inventories ahead of the 2024 holiday season, when egg demand is generally higher.[17] As of January 2025, people across the country were again facing surging egg prices — even in areas where retail inventories were less impacted.

For example, Midwest egg production at the end of 2024 was about where it was in mid-2024, when BLS-reported prices averaged around $2.50 per dozen. By December 2024, the Midwest was the only region with retail inventories above its five-year average. USDA retail price data are not available for the Midwest region during this time period, but BLS data show that a dozen eggs in the Midwest[b] cost $4.16 in December 2024 — compared to $4.15 nationally.

The days of being able to buy a dozen eggs for a buck and change appear to be over. This adds to the burden already facing consumers in an age of rapid inflation. Roughly 97 percent of U.S. households purchase eggs,[18] which are considered a necessity. Egg demand is "inelastic," meaning that rising prices do not necessarily reduce consumption.[19] Price spikes most acutely impact those households with the least amount of money to allocate toward food.

But for egg producers, the outbreak and continued price spikes signaled an opportunity for windfall profits.

Cal-Maine: America's Egg Baron

Just four companies own over one-third of the U.S. egg-laying flock. Most are privately held companies, meaning that they do not have to make their financial information public. But the leading U.S. egg producer, Cal-Maine, is a publicly traded company, with the largest flock of hens, pullets, and breeders in the U.S. According to Cal-Maine's filings to the U.S. Securities and Exchange

b There are slight differences between BLS and USDA regional definitions; see Methodology for details.

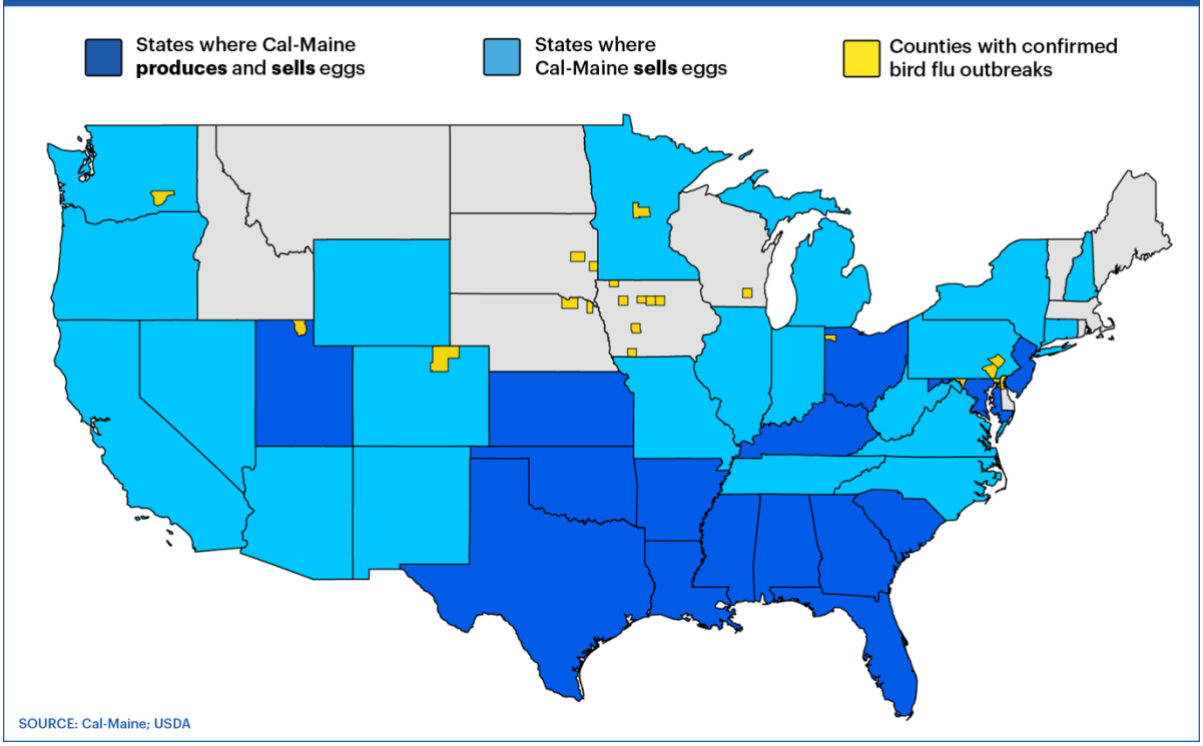
Commission (SEC), the company sells over 1 billion dozen shell eggs each year (roughly 21 percent of domestic consumption).[20]

Cal-Maine is a member of the Eggland's Best cooperative and sells eggs branded as Egg-Land's Best and Land O'Lakes. It owns the Farmhouse Eggs, 4-Grain, Sunups, and Sunny Meadow trademarks. Retail stores make up most of its sales, with Walmart alone accounting for one-third.[21]

Cal-Maine owns 43 egg production facilities, housing up to 48 million laying hens — or an average of over 1 million hens per operation. These are located mainly across the U.S. Southeast and Southwest.[22] Cal-Maine sells its eggs in dozens of U.S. states (see Fig. 3).

FIG. 3: Most of Cal-Maine's Operating Areas Had no Bird Flu Outbreaks in Fiscal Year 2023

Cal-Maine's operating areas and counties with confirmed bird flu infections in commercial table-egg flocks, January 2022 – June 2023



SOURCE: Cal-Maine; USDA

Cal-Maine followed Big Ag's playbook for dominating the egg market. It made 25 acquisitions since 1989. It also vertically integrated its operations and now controls each step of the production chain — from hatching chicks and maintaining flocks, to manufacturing feed, to processing and distributing its eggs. Over 90 percent of the eggs it produces come from company-owned farms, with the remainder coming from contract growers. Additionally, Cal-Maine purchases and resells eggs from private farms.[23]

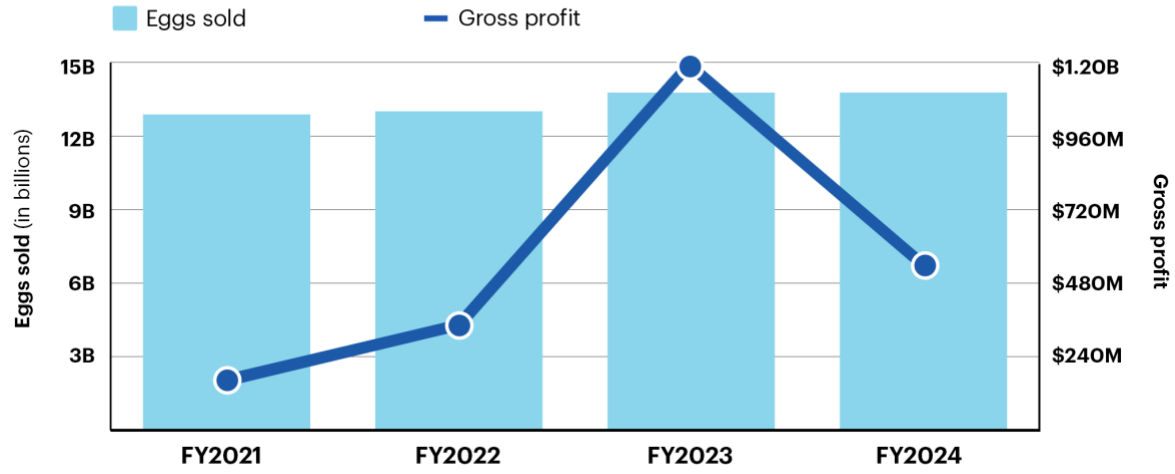
Cal-Maine's bird flu windfall

One may assume that the largest U.S. producer of eggs would have suffered losses due to bird flu. But remarkably, Cal-Maine apparently sailed through the first two years of the outbreak untouched, without a single reported outbreak in its egg flocks until December 2023.[24] In fact, Cal-Maine sold

more eggs in its FY 2023 (ending June 3, 2023) compared to the previous two years, thanks in part to increased sales of specialty eggs like organic or cage-free.[25] And most states it sold eggs in had yet to experience any bird flu outbreaks in commercial table-egg flocks (see Fig. 3).

FWW analysis of SEC filings found that, while Cal-Maine sold 7 percent more eggs in FY 2023 compared to FY 2021, its gross profit ballooned more than seven-fold[c] (see Fig. 4). This surge is largely attributed to selling its eggs at such high prices — 2.8 and 1.3 times as much for conventional and specialty eggs, respectively. Rising egg prices more than offset any increases in production costs in FY 2023, as well as the cost to purchase third-party eggs for later resale. In other words, Cal-Maine sold eggs at substantially higher prices than necessary to cover rising costs, reaping over $1 billion in windfall profits.

FIG. 4: Cal-Maine's Profits Soared Amid the Bird Flu Crisis
Eggs sold and gross profit, in fiscal years (FY) ending in June



SOURCE: Cal-Maine

To illustrate Cal-Maine's strategy to increase prices, FWW found that Cal-Maine's cost per dozen eggs sold (conventional or specialty) rose $0.53 in FY 2023 over FY 2021 levels, before the current bird flu outbreak began. Costs include feed and processing, along with outside egg purchases (costing an average of $3 per dozen purchased in FY 2023). When only considering shell eggs that Cal-Maine produced on its corporate or contract farms, FWW estimates that Cal-Maine's cost per dozen sold rose by $0.42.

However, the average price that Cal-Maine received per dozen eggs sold more than doubled in FY 2023 compared to FY 2021, and for conventional eggs specifically, it nearly tripled. Consequently, Cal-Maine pocketed an average of $1.14 per dozen eggs produced and sold in FY 2023 after covering its costs, compared to $0.15 in FY 2021 — a seven-and-a-half-fold increase. In other words, Cal-Maine pocketed nearly $1 *more* per dozen eggs produced and sold in FY 2023

c Even when accounting for inflation, Cal-Maine's gross profit still rose six-and-a-half fold from 2021 to 2023.

compared to FY 2021. With Cal-Maine producing over 1 billion dozen eggs in FY 2023, this amounts to over $1 billion dollars in windfall profits attributed to Cal-Maine's soaring egg prices.

The majority of Cal-Maine's customers are retailers, who then sell eggs to consumers.[26] The grocery industry is also highly concentrated: the top four grocery retailers take in three quarters of all grocery sales. Rising industry concentration can increase the "pass-through" of price spikes into retail prices[27] — meaning that grocery retailers raise prices and leave consumers footing the bill. Some retailers have also raised prices beyond inflation, as a Kroger executive reportedly revealed in testimony regarding the company's failed attempt to merge with Albertsons.[28]

This is not the first time that Cal-Maine has allegedly profited from national disasters without experiencing supply shortages. According to a lawsuit filed by the attorney general of Texas, the company had no outbreaks at its facilities during the 2015 bird flu outbreak but still sold at elevated prices. This allegedly helped generate an estimated $143 million in windfall profits in one quarter alone. Texas's lawsuit accused Cal-Maine of price gouging at the onset of the Covid-19 pandemic, arguing that the company tripled its prices despite not experiencing any shortages or supply chain disruptions.[29]

While egg inflation cooled a bit during Cal-Maine's FY 2024, they remained elevated from FY 2021. For example, Cal-Maine sold eggs for an average of $1.93 per dozen in FY 2024, $0.72 more than in 2021, while the cost per dozen produced rose just $0.33. This helped Cal-Maine triple its FY 2024 profits over FY 2021 levels, despite selling just 7 percent more eggs.

Egg inflation skyrocketed again in late 2024 and hit an all-time high of $4.95 per dozen in January 2025. The impacts of these price spikes on Cal-Maine's FY 2025 profits will be revealed when the company files its annual report in mid-2025.

Cashing in on the crisis

Cal-Maine's current CEO, Sherman L. Miller, took in $1.1 million in total compensation in FY 2023 — 26 times the median employee income of $45,107.[30] Additionally, Miller and other stockholders were awarded huge dividend payments thanks to Cal-Maine's record-breaking profits. The company paid out $252.3 million in dividends in FY 2023 — 40 times as much as in FY 2022.[31] FWW estimates that Cal-Maine's board chair and former CEO, Adolphus B. Baker, who owns more than 150,000 shares, would have taken in over $800,000 of these dividends alone.

Additionally, executive leaders and other stockholders saw the value of their stocks rise substantially as bird flu spread. In January 2022, Cal-Maine's stock was closing at around $40 per share, but then it rose in tandem with the evolving outbreak. It averaged $55 per share in January 2023, when the BLS reported the second highest national average egg price ever. The stock share price backslid a bit as 2023 progressed (with no outbreaks in table egg flocks occurring until November). But as outbreaks continued in 2024, and surged in its final months, so too did Cal-Maine's share value, reaching a historic high of $116 per share in January 2025. Baker's shares appreciated by nearly $10 million from January 2022 to January 2025 — despite Baker owning slightly fewer shares.

The Industry Playbook on Leveraging Crises

Referencing egg prices in its financial documents, Cal-Maine states, "We do not sell eggs directly to consumers or set the prices at which eggs are sold to consumers."[32] This statement may make it appear as though egg prices are entirely outside of Cal-Maine's control. However, Cal-Maine sells to entities like grocers that then sell to consumers, so the price it sells its eggs at certainly factors into grocery store prices.

The company states in its financial disclosures that many of its customers rely on Cal-Maine for the majority of their egg needs.[33] As the dominant player in an industry that continues to consolidate,[34] it is reasonable to assume that Cal-Maine has some degree of leverage in these markets. Add a national outbreak of bird flu, and you have the perfect environment for corporate price gouging.

BLS data show that egg price inflation was on the rise before the 2022 bird flu outbreak. The CEO of Vital Farms (which produces pasture-raised and organic eggs) called the price increases by other egg producers during the first year of the bird flu outbreak a "head-scratcher." And while he did not outright accuse his competitors of price gouging, he stated, "I don't see anything in my cost structure that would have led me to raise our prices by as much as [reported]."[35]

So how are egg prices determined? And does corporate power play a role?

Urner Barry and egg prices

Cal-Maine has faced price-gouging lawsuits in the past, including the aforementioned lawsuit brought by the Texas attorney general. The lawsuit referred to Cal-Maine as a "powerhouse" in Texas, and alleged that the company broke state law by raising prices during an ongoing declared disaster (in this case, the Covid-19 pandemic). The lawsuit points to claims on Cal-Maine's website that market egg prices are outside of its control. Since Cal-Maine sells on the spot market (rather than through long-term contracts), the lawsuit states that the company "can *offer* purchasers whichever price it chooses."[36]

This "market price" comes from a private firm that publishes price indexes on eggs and other commodities.[37] Expana's Urner Barry Egg Index[38] is not a household name, but it may still play an outsized role in the prices we pay for eggs.

Expana researchers contact companies throughout the egg supply chain, who voluntarily provide data. This includes data on actual transactions as well as bids and "market participant assessments."[39] Expana distills these data into "benchmark" prices in its Urner Barry index, which, in turn, allegedly influence the prices set by the same producers.[40] In other words, Urner Barry provides information to egg companies on the pricing direction of their competitors.

Urner Barry's influence on egg prices features in other price-gouging lawsuits, including one brought against another leading egg producer, Hillandale, for pandemic price gouging. New York's attorney general alleged that Hillandale raised egg prices by up to four-fold between January and March 2020 "simply to line its own pockets and profit off New Yorkers during a time of crisis."[41] The suit cited Hillandale leaders admitting that the rising prices had "nothing to do with cost or overhead" and were "solely Market based." This "Market" was none other than the Urner Barry index, which the lawsuit described as a feedback loop where producers' own inputs are used to set wholesale egg prices.[42]

The Texas lawsuit against Cal-Maine similarly calls out the company for referencing "the market" as an excuse for raising prices during the onset of the Covid-19 pandemic, when what Cal-Maine really means is the Urner Barry index. The lawsuit states, "When Cal-Maine discusses 'market prices' (when no market exchange exists) and market forces that are 'outside of our control' (when Cal-Maine can exert control), it misleads purchasers who seek answers as to why pandemic egg prices have jumped."[43]

Cal-Maine notes the influence of Urner Barry on U.S. egg prices, but also clarifies that the actual prices may differ "because of the individualized terms that we negotiate with individual customers which are influenced by many factors."[44] In other words, as the Texas lawsuit alleged, Cal-Maine does not appear to be tied to any market price for eggs.[45]

21st century corporate collusion?

Private companies like Urner Barry that rely on information from producers to influence food prices exist in other food sectors as well. Agri Stats, for example, collects information on production costs, prices, and other sensitive information from leading meat producers who subscribe to the service. Agri Stats then allegedly shares aggregated data with these processers, who pay millions of dollars for the service. [46]

The U.S. Department of Justice (DOJ), along with six states, are currently suing Agri Stats for price fixing.[47] In a competitive market, a processor whose prices are lower than its competitors' is motivated to increase production, thereby increasing profits. Agri Stats, the lawsuit argues, instead "enables and encourages processors to increase prices and restrict output to boost profits industry-wide."[48] Agri Stats also reportedly refuses to provide this information to farmers and workers. Under U.S. antitrust legislation, it is illegal for companies to share competitively sensitive information on prices, costs, and production plans.[49]

While price fixing may convey images of corporate executives scheming behind closed doors, it may also be facilitated by third-party companies like Agri Stats. The DOJ suit alleges that information exchanged via Agri Stats has "unreasonably restrained trade, suppressed competition, and had the actual and likely effect of stabilizing and increasing prices and reducing output in the United States broiler chicken market."[50] And companies like Agri Stats may be more common than you think. Rising airfare and soaring rent are linked to such third-party companies that share price information with industry players.[51]

Urner Barry points the finger at higher feed and energy costs, along with bird flu, as the reason behind rising egg prices.[52] But as this report's case study shows, Cal-Maine's profits rose by over $1 billion in FY 2023 compared to FY 2021, even after adjusting for rising costs. We do not have financial data for the other leading egg producers, as most are privately held companies and therefore are not required to file financial data with the SEC. Thus, we cannot determine whether egg price spikes covered these companies' rising costs tied to inputs and bird flu, and whether they too experienced windfall profits like Cal-Maine. Federal regulators, however, could open up investigations into these companies' practices to see whether price gouging occurred.

Additional tactics to influence egg prices

Price-fixing lawsuits aimed at egg producers are not limited to disasters like the Covid-19 pandemic. In 2011, a group of leading food manufacturers including Nestlé and Kellogg brought a conspiracy suit against several egg companies, which included Cal-Maine and the trade group United Egg Producers (UEP). Over a decade later when the case finally went to trial, a jury found that the producers and trade groups illegally conspired to raise egg prices by restricting egg supplies through various tactics, such as forced molting and early slaughter. The jury agreed with the plaintiffs and awarded them millions of dollars in damages.[53]

The suit even called out UEP's Certified program — which requires companies carrying the UEP Certified label to stock fewer hens in each cage — as yet another tactic for reducing supply. Defendants claimed that the Certified Program was created in response to customer demand for higher animal welfare standards. UEP documents presented as evidence, however, revealed a wider coordinated effort to reduce egg supplies and raise prices. These show the role played by Cal-Maine's former CEO and current board chair Adolphus Baker in advocating for supply reductions.[54]

Corporations Throwing Fuel on the Pandemic Fire

Corporations profiting from the bird flu disaster are also exacerbating the outbreak. Backyard poultry flocks face a risk of bird flu infections thanks to their proximity to and contact with wild bird populations[55]; they are an indicator of disease in wild populations, rather than playing a role in spreading the disease between flocks. There is no evidence of bird flu spreading from backyard to commercial poultry flocks.[56] The biggest risk factor for commercial egg farms remains being located near other farms with active infections.[57] The 2015 bird flu outbreak was similarly introduced into commercial flocks by wild birds but later spread from farm to farm, following the movement of workers, materials, and equipment.[58]

HPAI is fatal to poultry, and an outbreak in a commercial operation necessitates culling the entire flock to prevent further spreading.[59] These impacts cannot be understated. Today's average factory egg farm confines over 800,000 birds, with some operations confining several million.[60] This magnifies the scale of animal suffering and death, as well as the enormous environmental and safety burden of disposing of a million or more infected bird carcasses. As of February 2025, 99 percent of all impacted birds on commercial table-egg flocks were on factory farms (those with 100,000 or more birds).

In factory dairy farms, the scale and crowded conditions make them incubators for bird flu. The first H5N1 detection in commercial dairy farms occurred in March 2024. By the end of 2024, more than 900 dairy herds across 16 states had confirmed cases. The dairy industry's prioritization of profits exacerbates the outbreak. Farms have been reluctant to participate in voluntary testing of milk and farmworkers, and even to report active infections, for fear of losing milk sales.[61] Additionally, some dairies may not be informing workers of the risks of bird flu nor providing personal protective equipment (PPE). For example, a November 2024 report from the U.S. Centers for Disease Control (CDC) surveyed workers on farms with previous bird flu infections. Only one-fifth of workers reported using respiratory protection after an outbreak was confirmed, and just over one-third of workers reported using safety goggles.[62]

The factory dairy industry's exploitation of low-wage workers only heightens the risk to farmworkers. Many of these workers are undocumented and uninsured, creating barriers to testing, isolation, and treatment. Moreover, farmworker housing is notoriously crowded, meaning if human-to-human transmission were to occur, it could spread like wildfire within farmworker communities.[63]

Infections in cattle are an alarming development, given the close contact between dairy cows and farmworkers, as well as the potential for the virus to mutate in cows.[64] As of February 2025, 70 people in the U.S. have had confirmed H5N1 infections, and one has died. While there has been no confirmed human-to-human spread of infections to-date, the virus could mutate and become transmissible between humans.[65] Additionally, a hybrid virus could form if a farmworker catches seasonal flu and bird flu simultaneously, enabling gene swapping between the strains.[66] This could also occur if the virus moves to hog farms. Past pandemics like the 2009 swine flu outbreak emerged after pigs served as "mixing pots" for several flu strains, creating a novel virus that spread rapidly between humans.[67]

Many disease experts are alarmed at the U.S.'s response to bird flu, raising concern that we are not doing enough to prevent the next human pandemic. In many states hit by bird flu in dairies, agriculture officials are reluctant to allow CDC researchers to access farms, with the Texas Agriculture Commissioner stating, "They need to back off."[68] The USDA's response is also criticized as being slow-moving as well as deferential to the dairy industry.[69] Experts have raised concerns that the new Trump administration, with its focus on reducing funding for science, may shift federal funding and priority from where it is needed to prevent a human pandemic.[70]

Conclusion and Recommendations

Bird flu is a threat not only to food affordability but also to human health. Our corporate-run food system both exacerbates disease outbreaks on factory farms while creating price-gouging opportunities.

State and federal officials must proactively fight the spread of bird flu. This includes giving health officials access to farms with active outbreaks and providing and mandating the use of PPE when handling infected livestock. But to effectively stamp out the risk of future zoonotic pandemics — infectious diseases that can be transmitted from animals to humans — we must break the stranglehold that corporations have on our food system, moving away from factory farms and providing workers with fair wages and healthcare access.

Food & Water Watch recommends that:

- Congress pass the Farm System Reform Act, to stop the growth of factory farms and provide funding to help transition to smaller, sustainable farming systems;
- Congress pass the Price Gouging Prevention Act, to make the practice of corporate price gouging illegal while protecting consumers and small businesses;
- The DOJ expand its investigation into price fixing by third-party platforms like Agri Stats, including investigating Urner Barry's role in facilitating recent spikes in egg prices; and
- The DOJ and the Federal Trade Commission utilize the 2023 Merger Guidelines to block uncompetitive mergers in the food sector and beyond.

Methodology

HPAI data

Data on the evolving highly pathogenic avian influenza (HPAI) outbreak in poultry flocks come from the U.S. Department of Agriculture (USDA), downloaded from the U.S. Centers for Disease Control (CDC) website.[71] The dataset includes all confirmed and reported infections in U.S. domestic poultry since January 2022. We filtered for all outbreaks on commercial table egg flocks, including layer, pullet, and breeder flocks. When referencing human infections, we cite the CDC's bird flu landing page.[72] Data on HPAI outbreaks in cattle operations come from the USDA.[73] We filtered for outbreaks among dairy milking cows.

Egg price and retail availability

Egg price data come from two sources. When referencing egg inflation, we use U.S. Bureau of Labor Statistics (BLS) consumer price index data for one-dozen Grade A large eggs.[74] These data are reported monthly and are also available in three of the BLS's four regions (Northeast, Midwest, and South), although some regions are missing data for select months.

When referencing retail prices, we use the USDA Weekly Retail Egg Feature Activity reports.[75] These cover national data and six U.S. regions (Northeast, Southeast, Midwest, South Central, Southwest, and Northwest) and report on a weekly basis; however, regional data are similarly missing for select weeks. We chose to include these USDA reports as the agency's Southeast region coincides geographically with the Southeast region in USDA reports on retail egg inventories (see below). This allows us to make observations on regional egg prices and retail inventories for a region that until recently had no bird flu infections in commercial table egg flocks.

Retail egg inventory data come from the USDA's National Weekly Shell Egg Inventory reports,[76] and we only include conventional large eggs. These reports also include six regions that are nearly identically defined[d] and report on a weekly basis, with all weeks and regions reporting for the years we considered.

For both USDA reports, we average all reported weekly averages to create monthly averages. Each month comprises reports published in the month in question, regardless of whether portions of those weeks occurred in the previous or following month.

Egg production

We use USDA survey data for estimates on national and state-level table egg production, as well as the table egg layers inventory and the percentage of laying flock in molting.[77] We applied these molting rates to the inventory data to estimate the total productive table egg laying flock, following USDA methodology.[78]

This report compares table egg production, productive flocks, egg prices, and retail availability across multiple years using five-year monthly averages (or four-year monthly averages when data do not go back as far). For example, when comparing the Southeast's retail egg inventories in

d The only differences are Arizona and Utah, which are included in the Southwest region in the Retail Egg Feature Activity reports, and in the South Central region in the National Weekly Shell Egg Inventory reports.

January 2023 to the five-year average, we first calculated the monthly average in the Southeast for each January from 2018 to 2022, then took the average among these five preceding Januarys to calculate the five-year monthly average.

Some states did not report egg production data in the years we considered. Additionally, USDA surveys may withhold aggregate data for states or counties with little data reported. In the Southeast region, Florida, Tennessee, and Mississippi egg production data are not reported for all years considered in this report; we therefore excluded them from our analysis on changes to 5-year monthly average egg production in the Southeast. Kentucky, Michigan, North Dakota, Ohio, and Wisconsin are excluded from the Midwest for the same reason.

Cal-Maine profits, stock value, and marketing reach

We accessed Cal-Maine's corporate filings to the U.S. Securities and Exchange Commission (SEC).[79] These include Cal-Maine's annual reports (SEC Form 10-K), which cover its fiscal year (FY) that begins in June. As such, FY 2021 (ending May 29, 2021) is the last full year of reporting prior to the detection of bird flu in commercial poultry flocks in February 2022. We use FY 2021 as the baseline comparison to FYs 2023 and 2024, which occurred entirely within the time frame of the current bird flu outbreak.

We calculated "windfall profits" (gross profit earned attributed to rising egg prices) by first gathering data across Cal-Maine's recent Form 10-K filings. We calculated the cost per dozen eggs sold in FY 2021 and deducted this from the average sale price in FY 2021, to see the profit margin per dozen eggs sold that year. We compared this to the profit margins we calculated for FYs 2023 and 2024, to estimate the numerical increase in profit per dozen eggs sold. Since these increased profits are thanks to rising egg prices following bird flu outbreaks, we characterize them as Cal-Maine's "windfall profits."

We valued Cal-Maine's stock using historical downloaded from Nasdaq.[80] Stock values represent the closing value on the day in question. We accessed data on shares owned by Board Chair Adolphus B. Baker from Cal-Maine's SEC Form 4. Data on variable dividends paid by Cal-Maine are posted on the company's website.[81]

We determined Cal-Maine's production locations and market coverage using data posted on its website.[82]

Corporate concentration calculations

We reference WATTPoultry to estimate the total egg-laying flocks of the leading U.S. egg producers at the end of 2023.[83] We compare this to the total productive flock that we calculated for December 2023 (see above).

We use the USDA's estimate of total U.S. food-at-home sales for 2023 from grocery stores, supercenters and warehouse clubs, and other food stores (excluding convenience stores).[84] We identify leading food retailers from both USDA and industry sources, and use annual reports and SEC Form 10-K filings covering the majority of 2023 to determine net food sales for each of these corporations. For Walmart, we include food sales for both its supercenters and its Sam's Club warehouses.

Endnotes

1 U.S. Department of Agriculture (USDA). Animal and Plant Health Inspection Service (APHIS). "High Pathogenicity Avian Influenza Eradication — Tennessee: Final Environmental Assessment." March 2017 at 5.

2 USDA APHIS. "Detection of Highly Pathogenic Avian Influenza (H5N1) in Dairy Herds: Frequently Asked Questions." Updated April 24, 2024 at 1 to 3; Douglas, Leah. "Cows dead from bird flu rot in California as heat bakes dairy farms." *Reuters.* October 17, 2024.

3 Stobbe, Mike. "First US bird flu death is announced in Louisiana." *Associated Press.* January 7, 2025; Katella, Kathy. "H5N1 Bird Flu: What you need to know." *Yale Medicine*. January 7, 2025.

4 USDA APHIS. "Epidemiologic and Other Analyses of HPAI-Affected Poultry Flocks: Interim Report." June 2023 at 1 and 4.

5 Green, Alice L. et al. "Investigation of risk factors for introduction of highly pathogenic avian influenza H5N1 virus onto table egg farms in the United States, 2022: A case-control study." *Frontiers in Veterinary Science.* Vol. 10. July 2023 at 1.

6 Food & Water Watch (FWW) analysis of U.S. Department of Labor (DOL). Bureau of Labor Statistics (BLS). Series ID CUUR0000SA0. Available at https://www.bls.gov/data. Accessed February 2025.

7 USDA. Food and Nutrition Service (FNS). "Official USDA Food Plans: Cost of Food at Home at Four Levels, U.S. Average, February 2020." March 2020 at 1; USDA FNS. "Official USDA Thrifty Food Plan: U.S. Average, November 2024." December 2024 at 1.

8 FWW analysis of DOL BLS. Quarterly Census of Employment and Wages (QCEW). Available at https://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables. Accessed January 2025.

9 USDA FNS. Snap Data Tables. Available at https://www.fns.usda.gov/pd/supplemental-nutrition-assistance-program-snap. Accessed January 2025.

10 Tyson Foods, Inc. U.S. Securities and Exchange Commission (SEC). Form 10-K. Commission File No. 001-14704. FY ended September 28, 2019 at 42; Tyson Foods, Inc. SEC. Form 10-K. Commission File No. 001-14704. FY ended September 28, 2024 at 44.

11 Tyson Foods, Inc. SEC. Schedule 14A. Commission File No. 001-14704. December 2019 at 51; Tyson Foods, Inc. SEC. Schedule 14A. Commission File No. 001-14704. December 2024 at 61.

12 Wal-Mart Inc. SEC. Schedule 14A. June 2024 at 91.

13 USDA. Economic Research Service (ERS). "Eggs became an increasingly expensive source of animal protein in 2022 and into early 2023." Updated March 16, 2023. Available at https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartId=106132.

14 USDA ERS. "Livestock, Dairy, and Poultry Outlook: May 2022." LDP-M-335. May 18, 2022 at 28.

15 USDA ERS. "Livestock, Dairy, and Poultry Outlook: September 2023." LDP-M-351. September 18, 2023 at 29.

16 Timotija, Filip. "Egg prices jump with bird flu spreading before the holidays." *Hill*. December 21, 2024.

17 Durbin, Dee-Ann et al. Associated Press. "Why are eggs getting more expensive again?" *PBS News*. November 27, 2024.

18 Cal-Maine Foods, Inc. SEC. Form 10-K. Commission File No. 001-38695. FY ended June 1, 2024 at 5.

19 Bakhtavoryan, Rafael et al. "An empirical evaluation of egg demand in the United States." *Journal of Agricultural and Applied Economics*. Vol. 53. 2021 at 282; Ni Mhurchu, Cliona et al. "Food prices and consumer demand: Differences across income levels and ethnic groups." *PLoS ONE*. Vol. 8, Iss. 10. October 2013 at 1.

20 Cal-Maine Foods, Inc. (FY 2024) at 10 and 25.

21 *Ibid.* at 8 to 10.

22 *Ibid.* at 22.

23 *Ibid.* at 4 to 8 and 30.

24 Cal-Maine Foods, Inc. SEC. Form 10-K. Commission File No. 001-38695. FY ended June 3, 2023 at 13; Cal-Maine Foods, Inc (FY 2024) at 4 and 25 to 26.

25 Cal-Maine Foods, Inc. (FY 2023) at 24.

26 Cal-Maine Foods, Inc. (FY 2024) at 8 to 10.

27 Bräuning, Falk et al. Federal Reserve Bank of Boston. "Cost-price relationships in a concentrated economy." May 23, 2022 at 2 and 8.

28 Musumeci, Natalie. "A Kroger exec reportedly testified that the supermarket giant raised prices of milk and eggs beyond inflation costs." *Business Insider.* August 29, 2024; U.S. Federal Trade Commission. [Press release]. "Statement on FTC Victory Securing Halt to Kroger, Albertsons Grocery Merger." December 10, 2024.

29 Petition at 10 to 12, *Texas v. Cal-Maine Foods, Inc.*, No. 01-20-00641-CV (Tex. 215th Dist. Ct.).

30 Cal-Maine Foods, Inc. SEC. Schedule 14A. October 2023 at 34.

31 Cal-Maine Foods, Inc. (FY 2023) at 30.

32 Cal-Maine Foods, Inc. (FY 2024) at 5.

33 *Ibid.* at 4.
34 O'Keefe, Terrence et al. WATTPoultry. "4 variables for US egg producers to factor in 2024 plans." January 11, 2024; Kelloway, Claire. "Jury finds egg companies guilty of price-fixing. *Food & Power.* November 30, 2023.
35 "Vital Farms CEO says he can't explain significant rise in egg prices." *Yahoo Finance*. January 26, 2023. Available at https://finance.yahoo.com/video/vital-farms-ceo-says-cant-210915640.html.
36 Petition at 1, 7 to 13, *Cal-Maine Foods, Inc.*, No. 01-20-00641-CV.
37 Expana. [Press release]. "Mintec and AgriBriefing combine to create a market leading price reporting agency (PRA) and data provider." January 10, 2023; Petition at 13 to 14, *Cal-Maine Foods, Inc.*, No. 01-20-00641-CV.
38 Urner Barry by Expana. Urner Barry Egg Index EBP. Comcode: 4850. Available at https://www.urnerbarry.com/history/4850.
39 Urner Barry. "Urner Barry Price Reporting Methodology." Revised January 2024 at 3; Petition at 11, *New York v. Hillandale Farms Corp. et al.*, No. 451650/2020 (Sup. Ct., N.Y. County).
40 Petition at 13, *Cal-Maine Foods, Inc.*, No. 01-20-00641-CV; Petition at 11, *Hillandale Farms Corp. et al.*, No. 451650/2020.
41 Petition at 2, *Hillandale Farms Corp. et al.*, No. 451650/2020.
42 Petition at 1 to 2, 11, *Hillandale Farms Corp. et al.*, No. 451650/2020.
43 Petition at 13 to 14, *Cal-Maine Foods, Inc.*, No. 01-20-00641-CV.
44 Cal-Maine Foods, Inc. (FY 2024) at 5 to 6.
45 Petition at 9 to 13, *Cal-Maine Foods, Inc.*, No. 01-20-00641-CV.
46 Complaint at 1 to 9, *United States v. Agri Stats, Inc.*, No. 0:23-cv-03009 (D. Minn.).
47 *Ibid.,* ECF Nos. 1 and 50.
48 Complaint at 1 to 9, *Agri Stats, Inc.*, No. 0:23-cv-03009.
49 FWW. "Why Antitrust Laws Matter More Than Ever in Agriculture and Food." May 2023 at 2; United States of America v. Agri Stats Inc. 0:23-cv-03009 Doc. 1. 2023 at 3 to 4 and 58.
50 Complaint at 58, *Agri Stats, Inc.*, No. 0:23-cv-03009.
51 Goldstein, Luke. "Three algorithms in a room." *American Prospect.* June 5, 2024.
52 Rubio, Angel and Andrei Rjedkin. Urner Barry by Expana. "UB Consulting: Why the rise in egg prices?" January 20, 2023. Available at https://urnerbarry.com/Consulting/Blog/UBC-Blog/1244188.
53 *Kraft Food Glob., Inc. v. United Egg Producers, Inc.*, No. 11-cv-8808, 2024 WL 4346418 (N.D. Ill. Sept. 30, 2024).
54 *Ibid.*
55 USDA APHIS (June 2023) at 8.
56 *Ibid.* at 8.
57 Green, Alice L. et al. "Investigation of risk factors for introduction of highly pathogenic avian influenza H5N1 virus onto table egg farms in the United States, 2022: A case-control study." *Frontiers in Veterinary Science.* Vol. 10. July 2023 at 2; USDA APHIS (June 2023) at 17.
58 USDA APHIS (June 2023) at 7.
59 USDA APHIS (March 2017) at 5.
60 FWW. "Factory Farm Nation: 2024 Edition." September 2024 at 8.
61 Douglas, Leah and Tom Polansek. "US undercounts bird flu in cattle as farmers shun testing." *Reuters.* August 15, 2024; Mandavilli, Apoorva and Emily Anthes. "U.S. milk to be tested for bird flu virus." *New York Times.* December 6, 2024; Maxmen, Amy. KFF Health News. "How America lost control of the bird flu and raised the risk of another pandemic." *PBS News.* December 26, 2024.
62 Maxmen (2024); Mellis, Alexandra M. et al. "Serologic evidence of recent infection with highly pathogenic avian influenza A(H5) virus among dairy workers — Michigan and Colorado, June-August 2024." *Morbidity and Mortality Weekly Report.* Vol. 73, No. 44. November 2024 at methods and results.
63 Graham, Thomas. "As bird flu hops from cows to humans, dairy farm workers hold the key to preventing a pandemic." *Guardian*. May 29, 2024; Maxmen (2024).
64 Graham (2024); Katella (2025).
65 Lin, Ting-Hui et al. "A single mutation in bovine influenza H5N1 hemagglutinin switches specificity to human receptors." *Science.* Vol. 386, No. 6726. December 2024 at 1.
66 Maxmen (2024).
67 Katella (2025).
68 Hill, Meredith et al. "'They need to back off': Farm states push back on Biden's bird flu response." *Politico*. May 6, 2024.
69 Maxmen (2024).

70 Johns Hopkins. Bloomberg School of Public Health. "An update on avian influenza in dairy cows, poultry, and humans." November 26, 2024; Mandavilli and Anthes (2024).
71 U.S. Centers for Disease Control (CDC). "USDA Reported H5N1 Bird Flu Detections in Poultry." Available at https://www.cdc.gov/bird-flu/situation-summary/data-map-commercial.html. Accessed March 2025.
72 CDC. "H5 Bird Flu: Current Situation." Available at https://www.cdc.gov/bird-flu/situation-summary/index.html. Accessed March 2025.
73 USDA APHIS. "HPAI Confirmed Cases in Livestock." Available at https://www.aphis.usda.gov/livestock-poultry-disease/avian/avian-influenza/hpai-detections/hpai-confirmed-cases-livestock. Accessed March 2025.
74 DOL BLS. Series ID APU 0000708111. Available at https://www.bls.gov/data. Accessed February 2025.
75 USDA. Agricultural Marketing Service (AMS). "Weekly Retail Egg Feature Activity." AMS_2757. Available at https://mymarketnews.ams.usda.gov/filerepo/reports.
76 USDA AMS. "National Weekly Shell Egg Inventory." AMS_1427. Available at https://mymarketnews.ams.usda.gov/filerepo/reports.
77 USDA NASS. Quick Stats. Available at https://quickstats.nass.usda.gov.
78 See USDA AMS. "Weekly Shell Egg Demand Indicator." PYWSEDI. Available at https://mymarketnews.ams.usda.gov/filerepo/reports.
79 SEC. Electronic Data Gathering, Analysis, and Retrieval (EDGAR) system. Available at https://www.sec.gov/search-filings.
80 Nasdaq. Historical Quotes. Available at https://www.nasdaq.com/market-activity/stocks/calm/historical?page=1&rows_per_page=10&timeline=y5. Accessed March 2025.
81 Cal-Maine Foods, Inc. "Variable Dividend Policy." Available at https://www.calmainefoods.com/dividend-policy.
82 Cal-Maine Foods, Inc. "Operating Locations." Available at https://www.calmainefoods.com/locations. Updated December 31, 2024.
83 O'Keefe, Terrence. "The 60 largest egg producers in 2024." *Egg Industry.* Vol. 129, No. 1. January 2024.
84 USDA ERS. Food Expenditure Series. "Nominal food and alcohol expenditures, without taxes and tips, for all purchasers." June 2024. Available at https://www.ers.usda.gov/data-products/food-expenditure-series.