Land Stewardship Project White Paper:

# Big Bird. Big Problem.

***How the Poultry Industry is Turning the Avian Flu Pandemic into a Source of Profit at Taxpayer's Expense While Decimating Our Farm & Food System***

**September 2025**

LAND STEWARDSHIP PROJECT

**landstewardshipproject.org/avianflu**

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**September 2025**

This white paper was produced by the Land Stewardship Project's Policy Department with the assistance of the organization's Avian Flu Steering Committee: Doug Nopar, Tim Ahrens, and Ian Rhoades. Sean Carroll, LSP's policy director, facilitated the committee. Brian DeVore, LSP's managing editor, edited this white paper. This publication is available at landstewardshipproject.org/avianflu.

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**September 2025**

## *Executive Summary*

◆ Largely missing from most media coverage and public policy discussions related to the H5N1 avian influenza virus that emerged in 2022 is what role the mega-confinement, industrialized poultry system of agriculture has played in creating and propagating this pandemic. Are these operations the "victims" of a virus that originated in an environment outside of Big Ag's control? Or is the Big Bird CAFO system itself the source of the problem? And is society's strategy of paying big poultry companies to wipe out infected flocks and to continue business as usual yet one more way of subsidizing a system of food production that is inherently unsustainable?

◆ Just as the COVID-19 epidemic upended industrial meat slaughterhouses and placed livestock farmers in significant financial peril, avian flu has highlighted the fragility of an overly concentrated system of food production. However, the poultry industry and the USDA have been quick to claim that CAFO operators are not to blame for the virulence of H5N1. They argue that large-scale, closed off, "biosecure" facilities are still the best way to produce livestock, and that this virulent form of bird flu is the rare result of such security features being breached by outside forces that are beyond their control. It's been suggested that two of these outside forces are wild waterfowl and farming operations that raise poultry on pasture and in otherwise "backyard" or non-confined situations.

◆ There is increasing evidence that CAFOs are the perfect environment for a virus like avian flu to survive, thrive, and increase in virulence. Meanwhile, the strategies being used by the government thus far — pay producers to kill off entire flocks while subsidizing the construction of even larger CAFOs — are not a long-term solution.

◆ A growing group of scientists are calling for the industrialized livestock infrastructure to be replaced by agroecological systems in which meat comes from networks of small, locally owned farms whose practices are less likely to intensify disease. In order for a diversified, de-centralized livestock production system to become viable, it needs to be backed up by an equally de-centralized processing, marketing, and distribution system for those products.

◆ The farm and food system that has provided such a fertile seedbed for the deadly H5N1 avian influenza virus was not created by accident. Much of the blame can be placed on public policies that prop up and perpetuate an industrialized system that is inherently, and fatally, flawed. The Land Stewardship Project proposes several steps to start us on the road toward a more resilient poultry production system, including:

- ✔ Ending the subsidization of the current CAFO system.
- ✔ Directing public funds to a more regenerative system.
- ✔ Supporting a localized and distributed processing system.
- ✔ Funding land grant research that gets at the cause of the problem and sustainable ways of resolving it.
- ✔ Media coverage that digs deeper into this story rather than repeating the government/industry narrative that the current CAFO system is the only viable way to produce poultry and poultry products.

# I. Introduction

Big Ag has done an exemplary job of insulating the typical American eater from the negative impacts of our concentrated, industrialized form of food production. But periodically, the industry shows its hand and offers a reminder of how this system externalizes its costs, causing all of us to foot the bill. The rise of H5N1 avian influenza is the latest example of how the true costs of the factory farm system cannot be kept under wraps in perpetuity. Since this strain of the virus was first identified in poultry flocks in the United States in 2022, it's become clear it is the product of a system that poses significant threats to our food system, small and medium-sized farms, consumers' pocketbooks, and perhaps even public health. This pandemic should serve as a wake-up call that propping up the conventional way of producing food is no longer sustainable.

***Are these operations the "victims" of a virus that originated in an environment outside of Big Ag's control? Or is the Big Bird CAFO system itself the source of the problem?***

Largely missing from most media coverage and public policy discussions related to the H5N1 virus is what role the mega-confinement, industrialized poultry system of agriculture has played in creating and propagating this pandemic. Are these operations the "victims" of a virus that originated in an environment outside of Big Ag's control? Or is the Big Bird CAFO system itself the source of the problem? And is society's strategy of paying big poultry companies to wipe out infected flocks and to continue business as usual yet one more way of subsidizing a system of food production that is inherently unsustainable?

In this white paper, the Land Stewardship Project examines what questions need to be answered if we are to put an end to this seemingly endless cycle of outbreaks, mass euthanasia, pay-outs, and inflated food prices. This moment of crisis also offers a significant opportunity to create a food and farming system that is not constantly on the verge of disaster. That's why we are proposing policy solutions that could help set the foundation for a more sustainable, resilient poultry farming system.

# II. A Brief History of the Most Recent Avian Flu Outbreak

In February 2022, U.S. poultry operations started reporting outbreaks of a new H5N1 avian flu virus.[1] What sets this virus apart from other illnesses that have struck livestock over the years is the speed with which it spreads, as well as its virulence. It's a highly pathogenic avian influenza (HPAI) virus, which means once a bird contracts it, it results in virtually a 100% fatality rate. And once a few birds are infected, it spreads quickly to the rest of the flock. This is in contrast to low pathogenic avian influenza (LPAI), which often does little harm to the hosts. Various forms of LPAI have co-evolved with wild birds for millennia.[2]

Once H5N1 was identified in those first flocks, the virus raced through large-scale concentrated animal feeding operations (CAFOs) in the U.S. at a staggering rate. And because the main solution promoted by the industry, land grant scientists, and government officials is to destroy entire flocks once the virus shows up in a few birds, the bird death rate — directly from the virus itself and as a result of euthanasia — has skyrocketed. As of August 2025, in the U.S. over 174 million domesticated poultry had been impacted by H5N1. The virus has been detected in 50 states and one territory, according to the USDA's Animal and Plant Health Inspection Service (APHIS).[3] Between December 2024 and February 2025, chicken producers had to cull 53.8 million birds because of exposure to the flu — that's nearly four times more when compared to the same period a year previously, says APHIS.[4]

The other striking difference with this form of avian flu is that it has the ability to jump species. As of July 2025, over 1,000 dairy herds in 17 states (including Minnesota) had tested positive for H5N1.[5] The virus has also emerged in

seals, cats, bobcats, foxes, dogs, otters, and mink. And H5N1 is "zoonotic," which means it can be passed from animals to humans. Thus far, from a human health perspective the impact has been minimal. As of early 2025, roughly 70 people in the U.S. have become mildly ill from the virus, according to the U.S. Centers for Disease Control and Prevention; one woman died after contracting H5N1.[6] People appear to contract the illness via direct contact with animals that are infected. That means workers in large-scale livestock operations and people who are involved with euthanasia efforts are particularly vulnerable to being infected with the virus. There is no evidence that people can catch the virus by consuming poultry, eggs, or pasteurized milk produced by infected animals.[7]

# III. For Industry, Pandemic Profits

Awareness of the outbreak amongst members of the general public was mostly in the form of inflated prices consumers had to pay for a product that long had a reputation for being relatively affordable. In early 2025, egg prices in the U.S. reached record high levels, with some restaurants even imposing "egg surcharges" on meals. At one point, the USDA had predicted a 40% increase in egg prices in 2025.[8]

***While eaters were paying record prices for eggs, poultry companies were raking in major profits.***

It should be noted that despite the "egg panic," the U.S. poultry industry managed to ***export*** 32 million dozen shell eggs out of the country during the first five months of 2025, according to the USDA.[9] In fact, while eaters were getting hit hard in the pocketbook, large egg companies were benefiting significantly from the outbreak. Even as egg production recovered in 2023, prices did not come down. Between April and December 2023, national retail inventories of eggs each month exceeded the five-year average by as much as almost 13%. Yet the average egg price for consumers was higher than the five-year average each month, according to Food and Water Watch.[10]

One analysis also found that avian flu alone cannot explain consumer price hikes for products like eggs, which rose by 61% over one six-month period, according to the Bureau of Labor Statistics.[11] The direct costs related to losing hen flocks account for a 12% to 24% increase in retail prices, according to a study by the University of Arkansas.[12]

Cal-Maine, which produces 20% of the country's eggs, had no bird flu outbreaks in 2023 but still raised prices, raking in more than $1 billion in additional profits that year. The Mississippi-based company sold 7% more eggs in 2024 compared with 2021 and tripled its profits over the same period, according to an analysis of company filings conducted by Food and Water Watch.[13] In April 2025, it was announced that Cal-Maine was being investigated by the antitrust division of the U.S. Department of Justice as a result of the inflated prices being charged for its product.[14]

And the avian flu outbreak didn't appear to harm the profitability of Minnesota-based Jennie-O Turkey Store (a subsidiary of Hormel Foods) either. Hormel Foods' September 2022 quarterly report noted, "As anticipated, volume and sales declined as a result of the supply impacts on the company's vertically integrated supply chain from highly pathogenic avian influenza (HPAI)." Yet, while Jennie-O's sales volume of turkey products was down 20%, and net sales were down 8%, "segment profit was up 537%."[15]

# IV. The Structure of the U.S. Poultry Industry

A century ago, the average American chicken flock contained 70 birds. Today, CAFOs controlled by massive firms dominate the industry. For example, fewer than 150 commercial egg farms with flocks of at least 75,000 each now house over 95% of egg-laying hens, the United Egg Producers trade group estimates. On average, there are 10 houses on a large, integrated U.S. egg farm, and each contains 50,000 to 350,000 laying hens, which are crowded together tightly to increase the "efficient" use of space.[16]

Contrast that with Canada, where a typical egg farm has about 25,000 laying hens. Why such a difference? Canada has a supply management system which guarantees even relatively small egg farmers enough income to stay in business. Officials there feel that this has helped them control the avian flu outbreak, and as a result, it turns out Canadian consumers did not face extreme egg shortages during the height of the recent HPAI outbreak, reports *National Public Radio*.[17]

# V. The Government's Response

The government's response to this latest avian flu outbreak has consisted mostly of utilizing public funds to prop up the dominant industrialized poultry production system. A year into the pandemic, the USDA had spent more than $670 million to contain H5N1 and to indemnify flock owners for their losses. Outlays included more than $414 million in compensation for "depopulated" birds and eggs.[18] As of the end of 2024, the overall taxpayer costs of the ongoing outbreaks had exceeded $1.4 billion, including $1.25 billion paid to poultry producers to compensate them for having to euthanize their birds, according to APHIS. Of this, APHIS has spent roughly $227 million on indemnity payments to operations that have been infected with H5N1 ***more than once***.[19] In addition, a press release issued by the USDA in June 2025 reported that since the end of February, $70 million had been paid out by the Agriculture Department to "directly support" layer flocks impacted by HPAI.[20]

***As of the end of 2024, the overall taxpayer costs of the ongoing outbreaks had exceeded $1.4 billion. APHIS has spent roughly $227 million on indemnity payments to operations that have been infected with H5N1* more than once.**

According to *Successful Farming*, prior to 2024 the largest recipient of avian flu indemnities, at $74.8 million, was Jennie-O Turkey Store. The other top recipients were Rembrandt Enterprises of Iowa ($27.9 million); Sunrise Farms, also based in Iowa ($25.8 million); MG Waldbaum of Minnesota ($25.2 million); and Arkansas-based Tyson Foods ($24.3 million).[21] Poultry producers only receive indemnity payments for killing their birds; they do not qualify for payments if the flocks are allowed to die as a result of avian flu.[22]

Depopulating poultry flocks, which relies on such methods as placing birds into metal containers full of carbon dioxide or pumping a type of foam into barns to suffocate them, has a human cost as well. *Investigate Midwest* reviewed thousands of pages of state depopulation inspection records and conducted interviews with dozens of people involved in the industry. The news site found that in some cases underage workers had been hired to kill poultry flocks, handle dead carcasses, and clean industrial poultry farms. In addition, workers sometimes lacked personal protective equipment or received damaged gear. *Investigate Midwest* also found inhumane killing methods — such as shutting down ventilation systems, causing the birds to die of heat stroke — have been used at times because they are quicker and less costly.[23]

One government response to this most recent avian flu outbreak has been to supply poultry producers with financial resources to install better biosecurity infrastructure. As of June 26, 2025, the USDA had completed 948 assessments of the biosecurity measures present on farms across the U.S. The Agriculture Department now covers 75% of the cost of fixing biosecurity problems that are identified during an assessment.[24]

In 2024, an extensive *Royal Society Open Science Journal* analysis of the issues surrounding the role livestock agriculture plays in causing viral outbreaks cited research showing that biosecurity is far from a given in CAFOs. "Finally, while biosecurity measures tend to focus on reducing the frequency of pathogen incursions, less attention is afforded to the consequences of incursion (or magnitude)," wrote the authors. "If capital outlay on biosecurity is offset by expanding output and throughput, animals may become more susceptible to disease. In these circumstances, what looked like a highly contained process turns out to harbour potentially explosive leaks."

The paper also found that removing trees, water, and other habitat near CAFOs may eliminate wildlife but makes the facilities more vulnerable to the negative impacts of climate change — floods and extreme temperatures, for example.[25] In the Upper Midwest, the pork industry offers a prime example of the vulnerability of supposedly "biosecure" CAFOs — large-scale hog operations are increasingly seeking to build in places like northern Wisconsin to escape the preva-

lence of disease in traditional pork powerhouses like Iowa and southern Minnesota.[26]

*Agweek* reported in June 2025 that roughly 100 of the 600 turkey operations in Minnesota — the nation's biggest turkey producer — had installed lasers on top of their facilities in the previous 18 months in an attempt to keep wild birds away from barns. State funding approved by the 2025 Minnesota Legislature helps poultry farmers with the cost of installing wild bird deterrents such as lasers, which can start at around $13,000 each.[27]

One significant step the USDA is taking to support the poultry industry in the wake of the avian flu outbreak is to extend waivers allowing higher line speeds at processing plants.[28] U.S. Secretary of Agriculture Brooke Rollins has argued that lower line speeds in processing plants do not protect workers from injury and are simply an example of government red tape reducing efficiency.[29] However, the USDA's own studies found the piece rate — the number of animal parts a worker handled per minute — was associated with a higher risk of musculoskeletal diseases in processing plant workers.[30]

The USDA has also acted to facilitate more imports of eggs from other countries to "stabilize supplies." Since January 2025, more than 26 million dozen eggs have been imported from Brazil, Honduras, Mexico, Turkey, and South Korea for breaking and pasteurization. (In 2024, U.S. egg production totaled 109 billion eggs.) To more smoothly facilitate these imports, USDA has inspected and approved three new facilities—one in Arkansas and two in New York—to receive imported shell/table eggs for breaking and pasteurization, bringing the total number of approved facilities in the United States to six.[31] We should note that it's unclear at this time how President Donald Trump's focus on increasing tariffs will impact imports of products like eggs.

# VI. More Questions Than Answers

It has become clear that when it comes to H5N1, scientists and other experts have more questions than answers. As Apoorva Mandavilli, a *New York Times* journalist who has been covering avian flu for two decades, says, "There are all these things we don't know.… The virus is changing and we don't know exactly how or when it might be able to spread among people. Every expert I know is wary. The profusion of hosts has made a lot of my sources very nervous. It's most adaptive to birds, but it's shown itself capable of infecting a wide range of animals, which is unusual. We've now seen mammal-to-mammal transmission. It's probably capable at some point of getting to human-to-human transmission. We just don't know if or when it will get there."[32]

One of the biggest unknowns is how the virus is being transmitted, which makes putting in place viable biosecurity measures particularly challenging. Jennifer Nuzzo, an epidemiologist and director of Brown University's Pandemic Center, says, "I have not seen a very compelling explanation for how this thing is moving between farms. We just don't know. And not knowing makes it hard to stay ahead of the virus and it also makes it hard to protect the workers."[33]

***"I have not seen a very compelling explanation for how this thing is moving between farms. We just don't know."***

— epidemiologist Jennifer Nuzzo

The various theories related to how transmission occurs range from the wind carrying it between facilities and wild bird dander being sucked into CAFO ventilation systems to veterinarians carrying it on their clothes and "duck hunting" poultry workers transporting it into the barns after a day on the marsh.[34]

*Scientific American* reports that although "culling and containment" have been successful in controlling other avian flu outbreaks since the 1980s, the most recent strain seems to have found a new way to enter poultry operations. "In the past, bird flu spread to new farms through the droppings of infected migratory birds, meaning the danger was largely limited to summer and fall, when these birds passed through," reports the magazine. "Now the disease is in nonmigratory wild birds, as well as wild mammals. The risk is year-round, and scientists aren't entirely sure how the virus gets onto farms."[35]

# VII. The Industry's Blame Game

Just as the COVID-19 epidemic upended industrial meat slaughterhouses and placed livestock farmers in significant financial peril, avian flu has highlighted the fragility of an overly concentrated system of food production. However, the poultry industry and the USDA have been quick to claim that CAFO operators are not to blame for the virulence of H5N1. They argue that large-scale, closed off, biosecure facilities are still the best way to produce livestock, and that this virulent form of bird flu is the rare result of such security features being breached by outside forces that are beyond their control.[36] They suggest that two of these outside forces are wild waterfowl and farming operations that raise poultry on pasture and in otherwise "backyard" or non-confined situations.[37]

***One scientist says the CAFO production system makes poultry not only food for humans, but "food for flu."***

While scientists concede there is still a lot they do not know about how avian flu flourishes, there is increasing evidence that CAFOs are the perfect environment for a virus like avian flu to survive, thrive, and increase in virulence. The close quarters make it easy for pathogens to spread and evolve into a form that kills the host quite efficiently. In commercial systems, "you facilitate the Darwinian selection from an LPAI into an HPAI," Marius Gilbert, an epidemiologist at the Free University of Brussels, told *Nautilus* magazine.[38]

Studies have shown how avian flu, even when introduced by wild swans, for example, doesn't become deadly until it has an opportunity to incubate and spread in large scale commercial operations. Of the 39 times an LPAI strain evolved into a HPAI strain between 1959 and 2015, 37 of those jumps were reported in commercial poultry production systems, according to a study in the journal *Frontiers in Veterinary Medicine*.[39] Evolutionary ecologist Rob Wallace says that the CAFO production system makes poultry not only food for humans, but "food for flu."[40]

Science writer David Quammen, the author of *Breathless: The Scientific Race to Defeat a Deadly Virus*, argues that consumers' interest in inexpensive food has created a system where such devastating outbreaks are par for the course. "Factory farming increases the risk of epidemics," he writes. "By the choices we make as consumers, seeking economies of scale and low costs for the meat and dairy we want, produced in situations where thousands and millions of animals are crammed together in feedlots and barns, we create risks for ourselves and opportunities for the next dangerous virus."[41]

In his extensive review of peer-reviewed research — "Interaction of the role of Concentrated Animal Feeding Operations (CAFOs) in Emerging Infectious Diseases (EIDS)" — Indiana University Southeast's James Hollenbeck concludes that the "Most significant change in the evolution of airborne virus evolution is the rapid growth of the Concentrated Animal Feeding Operations. … Changes in the host–environment and the disease ecology are creating novel transmission patterns and selection of genetic traits."[42]

Science journalist Brandon Keim recently interviewed numerous researchers and combed through various studies in an attempt to get to the bottom of how the most recent outbreak of avian influenza became so deadly, so fast. He found that the evidence is clear that birds housed in CAFOs are easy targets for a disease outbreak. "Their immune systems may be suppressed by antibiotics and environmental stresses: toxic air, overcrowding, lack of sunlight, physical deformities induced by breeding for accelerated growth, and their own cacophony," he writes. "The birds are also genetically similar, meaning that a virus capable of evading one bird's defenses can probably evade many of them."

Additionally, Keim argues that factory farm systems not only can suppress the animal's immune response, but that the design and management of these systems actually make it easier for viruses to thrive. "Lost in the furor (of avian influenza) is a clear sense of where H5N1 and the class of influenzas to which it belongs, comes from: the evolutionary crucible of intensive animal production. In the facilities the artificial ecosystems constraints on virulence that prevail in natural ecosystems are not merely removed. Virulence is actually favored." Keim quotes Mark Woolhouse, an epidemiologist at the University of Edinburgh, who says that the viruses are "a response to the selection pressures that exist in a human creation: the modern poultry farm."[43]

Writing in the *University of Miami Law Review*, Helena Masiello argues that the very nature of CAFOs in general makes them a public health threat. "The large populations and densities of animals on factory farms, known as CAFOs, facilitate greater transmission of diseases in animals as well as recurrent infections," she writes. "When animals are

confined in circumstances that are different from their natural behavior, viruses can mutate and become novel strains that can survive in other hosts, like humans."[44]

It should be noted that before it arrived in North America, this strain of H5N1 originated in China after farmers there adopted the Western style system of CAFO poultry production.[45]

***Wild birds and backyard poultry flocks are not a new presence on the landscape — CAFOs are.***

# VIII. Pointing the Wrong Way

Wild birds have been carriers of various forms of low pathogenic avian influenza for millions of years, and have evolved a way to survive outbreaks without the kinds of massive die-offs that decimate populations.[46] In addition, poultry production in one form or another has been a part of farming for thousands of years. So why, after millennia, has HPAI arrived on the scene? Wild birds and backyard poultry flocks are not a new presence on the landscape — CAFOs are.

Given all the uncertainties, blaming wild birds and open-air poultry operations for the virulence of an unprecedented outbreak (and basing policy on those assumptions) makes little scientific, economic, or ecological sense. One thing is certain: the strategies being used by the government thus far — pay producers to kill off entire flocks while subsidizing the construction of even larger CAFOs — are not a long-term solution. If we are to gain control of what has become a "cycle of pandemics" and move forward with a more sustainable farm and food system, several questions need to be addressed, including how exactly the virus is spread, the role highly-industrialized poultry production plays in increasing its virulence, whether killing off entire flocks is the best solution, whether any facility can ever be thoroughly biosecure, the role wild birds play in the pandemic, whether the virus can evolve to be a major threat to human health, and whether raising poultry in open-air, non-biosecure situations is the source of the problem.

# IX. A New Poultry Approach

The USDA's response to avian flu thus far has focused on propping up the current system: from paying CAFO operators to kill birds and install $13,000 lasers to speeding up line speeds in processing plants and increasing imports of eggs. What's been missing from much of the discussion around H5N1 is the opportunity that exists to re-build our food system's ability to produce eggs, chickens, and turkeys in a way that would greatly benefit eaters, smaller farms and meat processors, as well as rural economies. Small and mid-sized farmers are already challenged by the extreme consolidation that exists in the CAFO-model of factory farming. And yet they represent an important, viable, and resilient alternative to the factory farming system.

As the producer mini-profiles included in this white paper show (*see page 9*), farmers of all types are providing nutritious eggs and poultry to eaters who want to support a more resilient, regenerative form of farming. Keith Southard farms in Alabama and produces broiler chickens and approximately 1,000 dozen eggs per week on pasture. In March 2025, he described to *CBS News* why producers like him are a good insurance policy for the food system: "Small farmers like us, family farms, play a key role, because it takes away the big consolidation that's happened and spreads out the risk where you have more farms across the state or country and more farmers. So, if one gets hit, it's not as big of an effect on the whole supply chain."[47]

Evolutionary ecologist Rob Wallace is among scientists calling for the industrialized livestock infrastructure to be replaced by agroecological systems in which animal products come from networks of small, locally-owned farms whose practices are less likely to intensify disease outbreaks.[48] In order for a diversified, de-centralized livestock production system to become viable, it needs to be backed up by an equally de-centralized processing, marketing, and distribution

system for those products.

Here is a short list of proposals that could start us on the road toward a more resilient poultry production system:

**1) Stop subsidizing an unsustainable system.** The sheer volume of subsidies paid out to industrial poultry operations with avian flu outbreaks has the effect of propping up the CAFO machine, not only furthering the food system's vulnerability and the public health risks associated with such a highly concentrated production network, but also making it increasingly more difficult for smaller poultry producers to compete. It also discourages innovative beginning farmers from entering into poultry production. Given the ongoing avian flu subsidies, the corporate poultry industry has no incentive to change its methods of production.

**2) Direct public funds to a regenerative system.** What if we re-directed subsidies being currently doled out to industrial producers to growers that raise up to 5,000 or 10,000 birds each under conditions that are not spawning grounds for massive disease outbreaks? As the mini-profiles in this white paper featuring small-scale poultry farmers show, there are viable ways to produce poultry without utilizing large-scale, consolidated models. Anecdotal evidence gleaned from beginning farmer training programs such as the Land Stewardship Project's Farm Beginnings course indicates that pastured poultry production is a popular, relatively-low cost way for young farmers to enter livestock production. What if even a portion of the $74.8 million paid to Jennie-O Turkey Store was directed to research, outreach, and support for regenerative poultry producers? That would be a sound public investment in a diverse, family farm based system of livestock production that benefits local communities and local food systems — and is more resilient.

*Given the ongoing avian flu subsidies, the corporate poultry industry has no incentive to change its methods of production.*

**3) Support a localized, distributed processing system.** The lack of local, right-sized meat and poultry processing facilities has proven to be a major barrier to small and medium-sized farmers who are looking to integrate livestock production into their operations. In Minnesota, the lack of poultry processing facilities in the state has forced independent farmers to haul birds to Iowa or Illinois to be butchered, putting them at a serious competitive disadvantage. Recent support provided by the Minnesota Legislature for small, local meat processing facilities is a good first step toward creating a system that is more resilient and supports regenerative farming. Let's continue and increase this kind of support.

**4) Land grant research that gets at the heart of the problem.** We need more publicly funded and publicly available information on the impact of CAFO production on bird health, the diet of infected flocks versus uninflected flocks, whether poultry CAFOs can ever truly be made "biosecure," and how avian flu spreads in infected migratory waterfowl. For example, is it possible for waterfowl to contract the virus after landing on fields where manure from poultry operations has been spread?

**5) Call on the media to dig deeper into this story.** Rather than repeating the conventional story line being generated by the USDA and the poultry industry, we need journalists to dig into the science of avian flu, question the viability of the current response, and report on the benefits offered by shifting our current industrialized infrastructure to a regenerative system.

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The bottom line? The farm and food system that has provided such a fertile seedbed for the deadly H5N1 avian influenza virus was not created by accident. Much of the blame can be placed on public policies that prop up and perpetuate an industrialized system that is inherently, and fatally, flawed. Ironically, at the root of this system is a public narrative that this is somehow an efficient, healthy way to produce food. Avian influenza has shown this to be a false narrative, fed by the industry and its backers in government and the media. It's time we learned from this hard lesson and took significant steps to build a system that is accountable, regenerative, and resilient.

# X. Poultry Farmer Mini-Profiles

## Auntie Annie's Fields

### *Vulnerable & Yet Committed to Regenerative Production*

Elizabeth O'Sullivan and Ian Rhoades own and operate Auntie Annie's Fields (auntieanniesfields.farm), which raises meat chickens, eggs, and pork on pasture near Dundas south of Minnesota's Twin Cities. In 2025, the operation had 1,900 laying hens and was raising 5,200 chickens for meat. Most commercial meat chickens are bred to grow fast in a controlled environment, producing lots of breast meat. Auntie Annie's Fields raises a "ranger chicken" that is bred for slower growth and for vitality in a pastured environment. Their birds range on pasture and eat organic feed.

The farm's eggs and meat chickens are delivered to homes throughout the Twin Cities by TC Farm, a food distribution enterprise. The eggs are also available as an add-on via a local Community Supported Agriculture operation. O'Sullivan and Rhoades are proud of the fact that many teens in the community worked their first job picking and packing eggs at their farm.

"People are asking how our chickens are doing with the bird flu," said Elizabeth. "They're fine, for now, but the danger posed by bird flu has us thinking about our farm's vulnerabilities."

She said that if their birds got the flu, their whole flock would be culled and they would not be able to have birds on the property for a year.

"This would likely mean an end for the farm we have been pouring all of our resources into since we started it in 2009," said Elizabeth. "We do not have insurance as we have not found a product designed for our operation."

One precaution they are taking is not having people on the farm if they've been around cattle — their veterinarian told them cattle can "shed" the virus at a high rate without looking ill. They also no longer host farm tours and even limit their social life to cut down on foot traffic.

"There's only so much we can do to prevent our birds from being sick," said Elizabeth. "Being a farmer has always meant being vulnerable for the sake of an ideal. We are vulnerable to storms, to predators, to mechanical problems that keep my husband working all night before teaching high school English all day. We are vulnerable to farming accidents, which have sent us each to the hospital. Now we are also vulnerable to bird flu. We are determined, though. We farm because we feel called to care for the land and the community by farming. We feel called to take a stand, and we know that taking a stand means being vulnerable."[49]

## Hidden Stream Farm

### *Pastured Poultry Part of Soil Rehabilitation Process*

After Eric and Lisa Klein graduated from the Land Stewardship Project's Farm Beginnings course a quarter-century ago, they began raising chickens and other livestock on rotationally grazed pastures near the town of Elgin in southeastern Minnesota's Wabasha County. Today, Hidden Stream Farm (hiddenstreamfarm.com) is a thriving meat and egg production and marketing enterprise that sells direct to eaters, co-ops, and restaurants throughout the region. They even use delivery services to ship product as far away as California and Florida. Hidden Stream also distributes dairy products and vegetables produced by other farmers.

Now, a new generation of Kleins has stepped into the operation. Two of Eric and Lisa's children, Andy and Ben Klein, graduated from Farm Beginnings in 2024, and are now deeply involved in the livestock and cropping enterprises on the farm. Throughout the years, pastured poultry has remained a foundational enterprise on the farm — Andy and one of his sisters, Katy, now produce free-range eggs using a flock of 800 hens.

They are constantly tweaking the egg and meat chicken operation to make it more sustainable economically, environmentally, and from a workload point of view. For example, through a discussion they had with Farm Beginnings classmates, Andy's wife, Madison, who often sat in on classes, came up with the idea to renovate one of their large hoop buildings so it could be moved through their chicken pastures. This marked a change from the Kleins' reliance on

smaller box-like "chicken tractor" structures popularized by Virginia farmer Joel Salatin. It's less labor to move the one larger structure around and offers the birds more room and protection from the elements, as well as predators.

The Kleins concede that raising chickens on pasture comes with major challenges, including bad weather and predators. But they remain committed to this method of production because of the positive response they get from customers who like the high quality of the eggs and meat it produces. But there's another important reason they are committed to rotating chickens on pasture.

The brothers have recently purchased a 120-acre farm next door to Hidden Stream. Andy and Ben's plan is to eventually transition the farm to organic, and it offers an opportunity for the brothers to put into action their passion for building soil health. The Klein family has long used cover cropping, rotational grazing of livestock, and diverse rotations to protect and build soil. This 120-acre hilly parcel on the edge of the Driftless Region has suffered as a result of years of conventional row cropping and is overdue for exposure to regenerative practices. In fact, a few years ago Eric posted a video on social media showing silt-laden soil washing off the farm onto Hidden Stream's acres.

One day recently, Andy turned on his computer and pulled up a Google Earth image of a pasture on the home farm where they had used moveable pens to graze chickens in 2024, which was extremely dry. He showed a visitor how the pale color of dried out, drought-stressed grass was evident. But where the chickens had grazed were patches of emerald green forage — it was clear the rotational grazing system had built resilient soil. An image from the 2023 drought year showed the same contrast between brown and biology.

"That right there is a testament to getting livestock out there," said Andy. "I really want to put chickens out on the new farm and see what effect that has on soil that's been beaten up for 40-plus years. I imagine it's going to pop."[50]

## Shepherd's Way Farms

***A More Diversified Farming System Means Less Costs Have to be Passed on to Consumers***

Shepherd's Way Farms (shepherdswayfarms.com) in southeastern Minnesota is a family-owned livestock operation that utilizes regenerative practices and managed grazing. The farm produces eggs, as well as raises sheep, hogs, chickens, and ducks. Over the years, Shepherd's Way's Aidan Read has seen how consolidation across the agricultural system, and the resulting loss of resilience, is bad for the consumer and bad for producers. Because eggs are just one part of their diversified business, Shepherd's Way didn't have to raise prices when the mainstream food supply was disrupted by crises such as the COVID-19 outbreak.

"When we have 10,000 small operations, we will be more resilient," Aidan says. "When we have four suppliers, if one problem happens, that's devastating."[51]

## Flying Leap Farm

***Consumers Value the Sustainable Way the Chickens are Raised***

Flying Leap Farm (flyingleapfarm.net) in eastern Minnesota raises heritage pigs, sheep, broiler chickens, and laying hens for eggs. The laying hens are free range, on pasture, and Clara Davis utilizes rotational grazing to improve soil quality. She sells at the farmers' market, and interacts directly with her customers, who tell her they are buying from Flying Leap Farm because they appreciate how the meat and eggs are raised.

These practices, however, mean a real investment in the infrastructure and labor needed to humanely raise free range egg layers. Avian flu is a major concern for Flying Leap Farm because the amount of money it would receive for culling the flock would not come close to making up for the amount the farm has invested in raising high quality, healthy birds.[52]

## Good Courage Farm

***Poultry a Beginning Farmer Gateway***

Kerri Meyer and her wife, Jen, own Good Courage Farm (goodcourage.farm) in west-central Minnesota, and they integrate laying hens into their production of perennial fruits. They raise free range birds, rarely use antibiotics, and focus on addressing the health of their animals holistically, which results in having healthy birds. Kerri has seen how small-scale chicken production offers an affordable entry point for integrating livestock into a regenerative system.

"Poultry is the gateway livestock for beginning farmers," she says.[53]

## Avodah Farm

***Many Smaller Growers Are Good Risk Management***

Martha and Geoffrey Black operate Avodah Farm (avodahfarm.net) in western Wisconsin, producing farm fresh eggs from pastured poultry. As a smaller operation and new farmers, poultry has been a good opportunity for them to get involved in agriculture, as the demand for high quality eggs is increasing. But they are also facing challenges as larger, conventional operations buy up more birds.

"Concentration and consolidation in the agriculture system has destroyed risk management," says Martha. "To create a food supply that is sustainable, we need more farmers on the land."[54]

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**Pasture-raised chickens on Flying Leap Farm** (*Photo Courtesy of Flying Leap Farm*)

# Land Stewardship Project


*The Land Stewardship Project (LSP) is a nonprofit organization dedicated to fostering an ethic of stewardship for farmland, promoting sustainable agriculture, and developing healthy communities in the food and farming system. LSP has offices in the Minnesota communities of Montevideo, Lewiston, and South Minneapolis.*

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