LAND STEWARDSHIP PROJECT

LSP *Myth Buster* #67

An ongoing Land Stewardship Project series on ag myths and ways of deflating them.

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➔ *Myth*: Bird Flu's Deadly Variant is the Fault of Regenerative Ag & Nature

➔ ***Fact*:** 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 there are periodic reminders of how this system externalizes its costs, causing all of us to foot the bill.

Perhaps nothing has brought home the cost of this system like H5N1 avian influenza. In February 2022, the USDA announced that there had been an outbreak of H5N1 in turkeys being raised in a commercial poultry operation. This set off a series of outbreaks that have ripped through large-scale concentrated animal feeding operations (CAFOs) at a staggering rate — once a chicken or turkey is infected, the mortality rate is virtually 100%. As of this writing, in the U.S. over 168 million commercially raised birds have been impacted by H5N1. And the problem shows no signs of dissipating; in fact, the virulence seems to be growing. Between December and February, 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 previous, according to the USDA's Animal and Plant Health Inspection Service (APHIS).

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The CAFO system produces "food for flu."

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And epidemiologists are alarmed that this version of the bird flu has evolved to jump species. As of early 2025, over 1,000 dairy herds in 17 states had tested positive for H5N1. The virus has also popped up in seals, cats, bobcats, foxes, dogs, otters, and mink.

From a human health perspective, the impact has been minimal. Around 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 has died after contracting avian flu. There is no evidence that people can catch the virus by consuming poultry, eggs, or milk.

But the financial impact is significant. At one point, egg prices in the U.S. jumped to record high levels, with some restaurants even imposing "egg surcharges" on meals. The taxpayer has also been significantly impacted given that the number one strategy for dealing with the problem has been to kill off entire flocks when the flu shows up in any of the birds. The public costs of the ongoing outbreaks have 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.

The poultry industry and the USDA are quick to claim that CAFO operators are not to blame for the avian flu's virulence and that confinement facilities are still the best way to produce livestock. But it's a myth that CAFOs can be made completely biosecure; that's why an increasing number of mega-hog operations, for example, are seeking to build facilities in places like northern Wisconsin, where they can distance themselves from disease outbreaks.

As a result, Big Ag is laying the blame for this unprecedented series of outbreaks squarely on two causes: wild waterfowl and farming operations that raise poultry on pasture and in otherwise non-confined situations. Their argument is that wild birds and free-range poultry carry H5N1 because they are not confined in biosecure facilities. However, there is growing evidence that this argument has it backwards: CAFOs are not the victims of the deadly version of the virus, so much as they are the incubators of it.

For one, wild birds have been carriers of various

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forms of avian flu for a long time, but have evolved a way to survive outbreaks without massive die-offs. A form of the virus they have learned to live with is considered "low pathogenic avian influenza" (LPAI), given that the hosts usually survive. However, H5N1 represents a form of the virus — "highly pathogenic avian influenza" (HPAI) — that has evolved to be extremely deadly. So why, after millennia, has HPAI become a problem?

It turns out CAFOs are the perfect environment for HPAI to evolve and thrive. A century ago, the average American chicken flock contained 70 birds. Today, 85% of all table eggs come from operations that have between 50,000 and six million hens, according to the Poultry Site, a website that tracks the poultry industry. On an integrated egg farm, the birds are crowded together to increase the "efficient" use of space. 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.

Studies have shown how the 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*. Evolutionary ecologist Rob Wallace told science journalist Brandon Keim that the CAFO production system makes poultry not only food for humans, but "food for flu."

Wallace is among scientists calling for industrialized livestock production 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. But in order for such a production system to become viable, it needs to be backed up by an equally de-centralized processing, marketing, and distribution system.

That's why the Land Stewardship Project's Community-Based Food Systems (landstewardshipproject.org/community-food) initiative is focusing on helping communities assess ways to develop localized networks that support regenerative farming methods and build Main Street economies — with no hidden price tags.

More Information

- "The Unnatural History of Bird Flu," *Nautilus*, https://nautil.us/the-unnatural-history-of-bird-flu-1189930
- "Geographical and Historical Patterns in the Emergences of Novel Highly Pathogenic Avian Influenza (HPAI) H5 and H7 Viruses in Poultry," *Frontiers in Veterinary Medicine*, https://www.frontiersin.org/journals/veterinary-science

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