

New World Screwworm: Current Issues

June 2, 2025

The New World screwworm (*Cochliomyia hominivorax*) is a housefly-sized parasite that lays eggs in the wounds or mucous membranes of warm-blooded vertebrates (e.g., mammals, birds). The U.S. Department of Agriculture (USDA) eradicated screwworm from the United States in 1966, but recent cases in Mexico have raised concerns about possible new domestic cases. USDA considers screwworm a serious threat to livestock, estimating losses from a 1976 outbreak in Texas at \$732 million and \$1.8 billion to the state’s livestock producers and economy, respectively, in 2024 dollars.

Screwworm larvae feed on healthy, living tissue (see **Figure 1**), causing a painful condition known as “myiasis.” Treatment may include wound care, surgical removal, and topical [pesticide](#) application. Left untreated, the affected host may die within [1-2 weeks](#).

Eradication

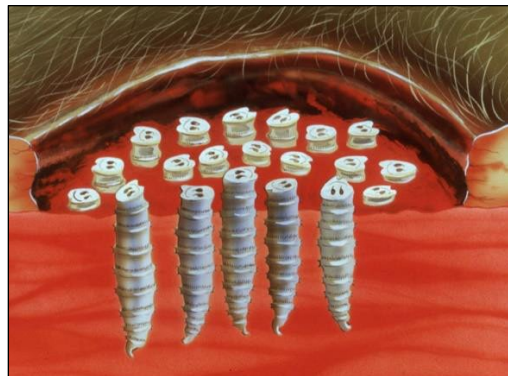
Previously limited to the U.S. Southwest, screwworm migrated to the Southeast via a shipment of infested animals in [1933](#).

Entomologists at USDA’s Agricultural Research Service spent decades developing and deploying the [Sterile Insect Technique](#), which consists of releasing sterile male flies into affected areas to reduce screwworm reproductive success until the population dies out. The United States declared itself free of indigenous screwworm by 1966.

International Cooperation

In 1972, the United States experienced a widespread screwworm outbreak, spurring the [establishment](#) of a joint Mexico-United States Screwworm Eradication Commission. Both countries agreed to move the screwworm barrier zone from the southern U.S. border to the narrowest point in Mexico, the Isthmus of Tehuantepec.

Figure 1. Larvae Infestation in Wound



Source: U.S. Department of Agriculture (USDA), National Agricultural Library, “[Slide of Larvae Living in Wound](#).”

Note: “Screwworm” describes the larvae’s appearance as it burrows into the host.

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The Mexico-U.S. commission continued its eradication efforts south of Mexico, ultimately setting a barrier zone between Central and South America at Panama's Darién Gap. In 1994, the Panama-United States Commission for the Eradication and Prevention of Screwworm (COPEG) initiated plans for a facility capable of producing up to 100 million sterile flies weekly to maintain the barrier zone. Completed in 2006, the facility is managed jointly by Panama's Agriculture Ministry and USDA's Animal and Plant Health Inspection Service (APHIS). APHIS has funded 90% of COPEG's activities and estimated in 2025 that its investment has saved the U.S. cattle industry \$2.3 billion annually.

Current Issues

In 2023, screwworm annual detections increased in Panama—from around 25 cases to more than 6,500 cases. Screwworm spread northward from Panama through Costa Rica, Nicaragua, Honduras, Guatemala, Belize, and El Salvador.

In November 2024, a screwworm case was reported in southern Mexico. In response, the United States suspended live animal imports from Mexico. After both countries agreed to enhanced preclearance inspection and treatment protocols, the southern border reopened to Mexico-origin cattle and bison in February 2025.

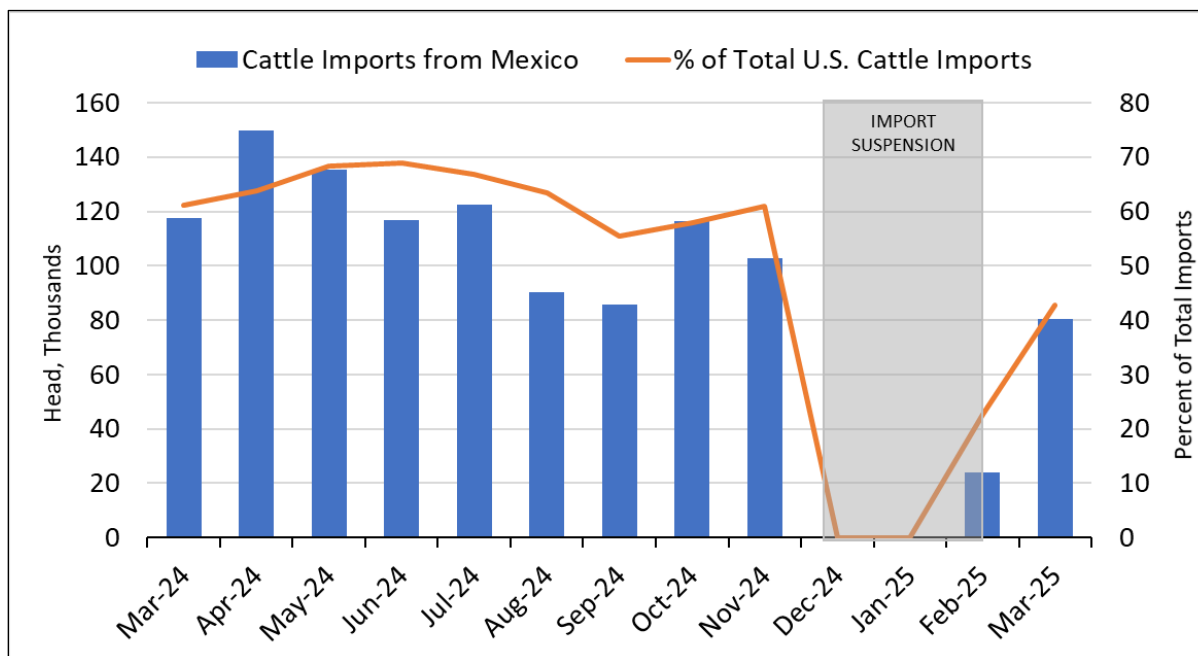
In April 2025, Secretary of Agriculture Brooke Rollins wrote to her counterpart in Mexico with concerns that Mexico was impeding eradication efforts. “Despite the fact that all materials and operations are being funded entirely by the [United States],” Secretary Rollins stated, Mexico's aviation authorities were imposing restrictions on “USDA APHIS-contracted” aircraft fleets, and its customs authorities were imposing import duties on aviation equipment and “sterile fly shipments.”

USDA announced on May 11, 2025, that it would again suspend imports of live animals on a “month-by-month basis, until a significant window of containment is achieved.” Mexico's President Claudia Sheinbaum reportedly called the action “unfair.”

Mexico typically accounts for more than 60% of imported cattle, approximately 1.25 million head annually in 2023 and 2024 (Figure 2). The U.S. cattle herd, at 87 million head, is at its lowest level since 1951. Fewer cattle imports may further constrain supply, which could increase beef prices for U.S. consumers.

U.S. livestock stakeholder groups generally supported USDA's import suspension. One group acknowledged that although the border closure may “cause economic harm for U.S. farmers and ranchers” and “create supply chain disruptions,” the costs would be less than responding to a U.S. screwworm outbreak.

Figure 2. Cattle Imports from Mexico and Mexico's Share of Total Cattle Imports, March 2024-March 2025



Source: USDA, Economic Research Service, “Livestock and Meat International Trade Data,” updated May 7, 2025.

Note: Shading represents U.S. suspension of live animal imports from Mexico from November 2024 to February 2025.

Congressional Considerations

The Animal Health Protection Act (7 U.S.C. §§8301 et seq.) authorizes the Secretary of Agriculture to act to eradicate diseases or pests that threaten animal and public health, which includes restricting animal movement, destroying animals, and implementing preventive disease controls. As Congress monitors the northward spread of screwworm, it may consider various options, including maintaining the current approach, evaluating existing eradication efforts, determining program funding levels and staffing, and considering proposals for a domestic sterile fly-rearing facility.

APHIS received emergency funding of **\$109.8 million** in 2023 and **\$165 million** in 2024 from the Commodity Credit Corporation (CCC) for screwworm response activities. In May 2025, USDA announced an additional **\$21 million** transfer of CCC funds to convert an existing fruit-fly-rearing facility in Metapa, Mexico, into a sterile fly-rearing facility. For FY2025, APHIS requested an increase of **\$3.6 million** to address aging infrastructure and higher operational costs at its Panama fly-rearing facility. A 2023 APHIS [improvement plan](#) included the Panama facility on a list of its three “highest priority facilities in need of repair.”

Congress may assess domestic or international capacity needs for sterile fly production and dispersal. Some Members of Congress [wrote](#) to Secretary Rollins in March 2025 requesting that USDA consider the feasibility of building a domestic sterile fly production facility. The United States operated a sterile fly-rearing [facility](#) in Texas from 1962 to 1982. Similar [facilities](#) exist today for research purposes, though none are configured for the current requested scale of production. Bills introduced in the 119th Congress (H.R. 3392, S. 1751) would provide a \$300 million appropriations authorization for the construction of a screwworm-fly-rearing facility in an at-risk state.

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Avian Influenza (Bird Flu) in the United States

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Avian Influenza (Bird Flu) in the United States

Avian influenza, sometimes referred to as “bird flu,” is a disease caused by influenza A viruses. It can be highly contagious and has a history of infecting birds, wildlife, and humans. A subtype of avian influenza, H5N1, was first detected in 1996 in Guangdong Province in China and has been spread globally by migratory birds. A 2021 outbreak of H5N1 that originated in Europe has caused a panzootic in birds that spread to the United States in early 2022. H5N1 is widespread in wild birds and is responsible for outbreaks in poultry and dairy cattle in the United States. There have been reported cases of humans infected with H5N1 in the United States since 2024, mostly among dairy and poultry workers who contracted the disease from infected animals.

H5N1 is not known to spread easily from human to human, but its ability to adapt, mutate, reassort with other viruses, and infect different mammal species means that the potential for human-to-human transmission exists. Some Members of Congress have expressed concerns about the spread of H5N1 and its potential health effects on humans, as well as its possible negative economic impact on agriculture, especially in the poultry and livestock industries. Some Members also expressed concern about avian influenza when previous pandemics occurred.

Avian influenza is part of the *Orthomyxoviridae* family and is grouped into four main categories: A, B, C, and D. Type A viruses are known to infect birds and mammals (including humans), while Types B, C, and D are restricted to certain host ranges. Type A viruses include avian influenza, swine influenza, and canine influenza. Type A viruses have caused more documented global pandemics in human history than any other type of pathogen, including four pandemics since the beginning of the 20th century. Highly pathogenic avian influenza (HPAI) can cause high mortality rates in wild birds and poultry, while low pathogenic avian influenza (LPAI) typically causes few or no clinical signs. Avian influenza is globally spread by birds that fly long distances via migratory pathways. These pathways can also be conduits for the spread of avian influenza to mammals (including humans) from wild birds. H5N1 is responsible for a recent outbreak circling the globe. The virus has infected wild birds, some species of mammals (e.g., domestic cats, harbor seals, mountain lions), poultry, and livestock in the United States. Federal, state, and local agencies are responding to H5N1 in various ways, including monitoring the spread of H5N1; creating policies to address potential impacts in industries such as poultry; and contemplating countermeasures for addressing the disease in animals and potentially humans.

There are several issues that Congress might consider when addressing avian influenza in the United States: the effectiveness and coverage of existing biosurveillance practices and policies; the effectiveness of coordination among federal agencies; the status of international collaboration; research and data required to fill existing knowledge gaps; activities related to monitoring and planning for potential spillover of avian influenza to humans; and policies that lead to suppressing or eliminating avian influenza in the United States. Some of these policies include

- heightening surveillance and detection of infected organisms;
- increasing biosecurity measures to protect livestock and poultry from infected wild birds and mammals;
- limiting exposure of wildlife associated with humans (e.g., livestock, poultry, and pets) to H5N1;
- instituting rapid response and containment protocols of infected animals, including efforts to cull infected animals;
- creating and testing mitigation and treatment methods, such as vaccines and therapeutic remedies; and
- conducting research on mutations and genetic reassortment to provide insight into whether human-to-human transmission of the virus is imminent.

R48580

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Introduction

Avian influenza, sometimes referred to as “bird flu,” is a disease caused by influenza A viruses. It can be highly contagious and has a history of infecting birds, wildlife, and humans (**Table 1**). Wild birds, mainly waterfowl, naturally carry this virus and have introduced it to regions around the world, including the United States.¹ Avian influenza is not a novel virus; it was first identified in the 1800s and has mutated into various subtypes since that time (**Appendix A**). A subtype of avian influenza, H5N1, was first detected in 1996 in Guangdong Province in China and has been spread globally by migratory birds. Influenza A viruses have been responsible for multiple outbreaks among animals and humans, including those in the United States.²

Table 1. Selected Pandemics Attributed to Influenza A

Date	Name	Description
1918-1919	Spanish flu	This pandemic, caused by the H1N1 influenza virus is estimated to have killed approximately 50-100 million people.
1957	Asian flu	This was an H2N2 virus that originated from an avian influenza A virus. The virus emerged in East Asia and spread around the world, causing an estimated 1.1 million deaths worldwide and 116,000 deaths in the United States.
1968	Hong Kong flu	The 1968 pandemic was caused by an influenza A (H3N2) virus. It was first detected in Hong Kong and later spread to other countries and the United States. The estimated number of deaths was 1 million worldwide and about 100,000 in the United States.
1977	Russian influenza pandemic	This virus is believed to be similar to those circulating in the 1950s. It is hypothesized that the virus had been kept frozen in a laboratory and accidentally released.
1997		In May 1997, H5N1 was isolated from a 3-year-old boy in Hong Kong. Eighteen Hong Kong residents were infected with H5N1 influenza viruses, six of whom died.
2009	Swine flu	The 2009 H1N1 swine flu pandemic was caused by a reassortment of avian influenza that had been circulating in swine for at least 10 years. The precursor swine strains had segments of avian influenza tracing back 30 years. The Centers for Disease Control and Prevention (CDC) estimated that the United States had 60.8 million cases, of which 12,469 people died. The CDC estimated that between 151,700 and 575,400 people died worldwide from the pandemic.

Source: Taisuke Horimoto and Yoshihiro Kawaoka, “Pandemic Threat Posed by Avian Influenza A Viruses,” *Clinical Microbiology Reviews*, vol. 14, no. 1 (2001); Samantha J. Lycett et al., “A Brief History of Bird Flu,” *Philosophical Transactions of the Royal Society B*, vol. 374, no. 1775 (2019), <https://doi.org/10.1098/rstb.2018.0257>;

¹ Ruopeng Xie et al., “The Episodic Resurgence of Highly Pathogenic Avian Influenza H5 Virus,” *Nature*, vol. 622, no. 7984 (October 18, 2023), pp. 810-817 (hereinafter Xie et al., “The Episodic Resurgence of Highly Pathogenic Avian Influenza H5 Virus”).

² Thao-Quyen Nguyen et al., “Emergence and Interstate Spread of Highly Pathogenic Avian Influenza A(H5N1) in Dairy Cattle in the United States,” *Science*, vol. 388, no. 6745 (April 2025) (hereinafter Nguyen et al., “Emergence and Interstate Spread of Highly Pathogenic Avian Influenza A(H5N1)”).

and CDC, “2009 H1N1 Pandemic (H1N1pdm09 Virus),” 2019, https://archive.cdc.gov/www_cdc_gov/flu/pandemic-resources/2009-h1n1-pandemic.html.

One outbreak of H5N1 has caused a panzootic³ in birds since 2021, which spread to the United States in early 2022. H5N1 is widespread in wild birds and is responsible for outbreaks in poultry and dairy cattle in the United States. Since the outbreak, the U.S. Department of Agriculture (USDA) reported H5N1 infections in over 1,074 herds of dairy cattle in 17 states across the United States as of May 21, 2025.⁴ Further, there have been reported cases of humans infected with H5N1 in the United States since 2024, mostly among dairy and poultry workers who contracted the disease from infected animals, although some human cases have no known connections with the dairy and poultry industry (**Table 2**).⁵

Table 2. Confirmed U.S. Human Cases of H5N1 and Exposure Route

Confirmed Cases from 2024 Through January 5, 2025

State	Dairy Herds ^a	Poultry Farms and Culling Operations ^a	Other Animal Exposure ^b	Exposure Source Unknown	Total Cases
California	36	0	0	2	38
Colorado	1	9	0	0	10
Iowa	0	1	0	0	1
Louisiana	0	0	1	0	1
Michigan	2	0	0	0	2
Missouri	0	0	0	1	1
Nevada	1	0	0	0	1
Ohio	0	1	0	0	1
Oregon	0	1	0	0	1
Texas	1	0	0	0	1
Washington	0	11	0	0	11
Wisconsin	0	0	1	0	1
Wyoming	0	0	1	0	1
Total U.S.	41	24	2	3	70

Source: Centers for Disease Control and Prevention, “H5 Bird Flu: Current Situation,” February 27, 2025, <https://www.cdc.gov/bird-flu/situation-summary/index.html>.

Notes: Data used in the table were downloaded on February 27, 2025.

- a. Exposure is associated with commercial agriculture and related operations.
- b. Exposure was related to other animals, such as backyard flocks, wild birds, or other mammals.

Although the current public health risk is low for humans, according to the Centers for Disease Control and Prevention (CDC), many scientists have expressed concern about the possibility of

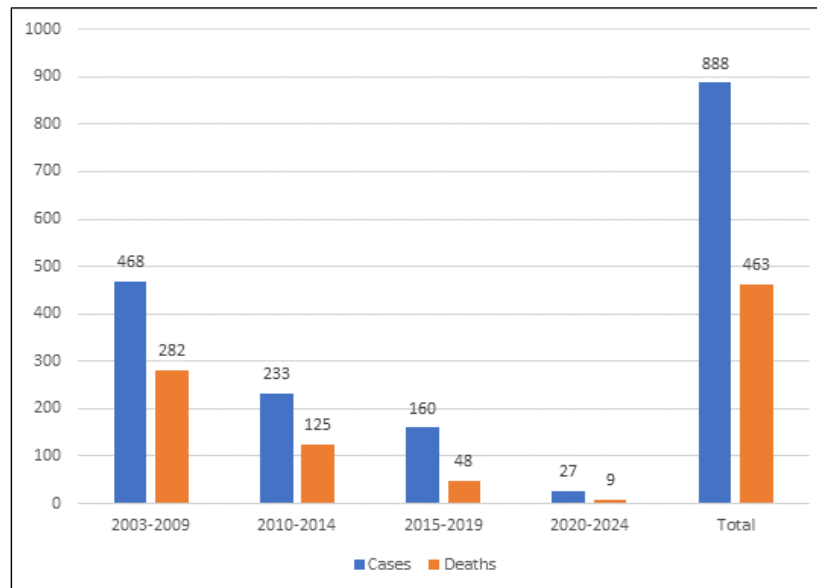
³ *Panzootic* refers to an outbreak of a disease within nonhuman animals that spreads across a large region or worldwide. The equivalent term for a human disease outbreak is a *pandemic*.

⁴ U.S. Department of Agriculture (USDA), “HPAI Confirmed Cases in Livestock Herds,” January 16, 2025, <https://www.aphis.usda.gov/livestock-poultry-disease/avian/avian-influenza/hpai-detections/hpai-confirmed-cases-livestock>.

⁵ Centers for Disease Control and Prevention (CDC), “H5 Bird Flu: Current Situation,” May 30, 2025, <https://www.cdc.gov/bird-flu/situation-summary/index.html>.

H5N1 evolving and spreading among humans through airborne transmission.⁶ Historically, H5N1 is associated with a high human mortality rate: more than 50% of reported cases before 2019 resulted in fatalities (**Figure 1**). Most of these previous human fatalities and cases were due to transmission of the virus from animals to humans, with some limited human-to-human transmission.

Figure 1. Number of Confirmed Human Cases and Deaths for Avian Influenza A (H5N1) Reported to World Health Organization, 2003-2024



Source: World Health Organization (WHO), *Cumulative Number of Confirmed Human Cases for Avian Influenza A(H5N1) Reported to WHO, 2003-2024*, March 28, 2024, [https://cdn.who.int/media/docs/default-source/influenza/h5n1-human-case-cumulative-table/cumulative-number-of-confirmed-human-cases-for-avian-influenza-a\(h5n1\)-reported-to-who--2003-2024.pdf](https://cdn.who.int/media/docs/default-source/influenza/h5n1-human-case-cumulative-table/cumulative-number-of-confirmed-human-cases-for-avian-influenza-a(h5n1)-reported-to-who--2003-2024.pdf).

Notes: Most cases were reported in Egypt, Indonesia, and Vietnam (approximately 77% of the total).

Recent cases of human H5N1 infections appear to be the result of animal-to-human transmission but are usually not as severe as older H5N1 cases.⁷ Some scientists note that the reasons for this difference are uncertain, but they do not know whether the low fatality rate in humans is due to host immunity, route of exposure, or mutations in the virus.⁸ Of 70 people in the United States diagnosed since 2022 with H5N1, one died, according to the CDC.⁹ Current strains of H5N1 are not found to spread easily from human to human; however, stakeholders are monitoring the situation for changes.¹⁰ The potential for human-to-human transmission exists, according to

⁶ Ranu S. Dhillon et al., “Steps to Prevent and Respond to an H5N1 Epidemic in the USA,” *Nature Medicine*, vol. 31, no. 4 (April 2025), pp. 1063-1065 (hereinafter Dhillon et al., “Steps to Prevent and Respond to an H5N1 Epidemic in the USA”); and Yuying Liang, “Pathogenicity and Virulence of Influenza,” *Virulence*, vol. 14, no. 1 (2023).

⁷ Florian Krammer et al., “Highly Pathogenic Avian Influenza H5N1: History, Current Situation, and Outlook,” *Journal of Virology*, vol. 99, no. 4 (March 27, 2005) (hereinafter Krammer et al., “Highly Pathogenic Avian Influenza H5N1: History”).

⁸ Michael G. Ison and Jeanne Marrazzo, “The Emerging Threat of H5N1 to Human Health,” *The New England Journal of Medicine*, vol. 392, no. 9 (2025), pp. 916-918 (hereinafter Ison and Marrazzo, “The Emerging Threat of H5N1 to Human Health”).

⁹ CDC, “H5 Bird Flu: Current Situation,” May 30, 2025, <https://www.cdc.gov/bird-flu/situation-summary/index.html>.

¹⁰ As of May 23, 2025, there were no known cases of human-to-human transmission of H5N1, according to the CDC. (continued...)

scientists, because of the ability of the virus to adapt and infect several mammals and its ability to mutate and reassort with other viruses.¹¹

The spread and evolution of H5N1 is a concern for many people because influenza A viruses have caused more documented global pandemics in human history than any other type of pathogen, including four pandemics (**Table 1**) since the beginning of the 20th century.¹² After causing a pandemic, these types of viruses usually establish themselves in human populations as seasonal flu viruses, causing millions of infections and thousands of deaths per year.¹³ Scientists attribute influenza pandemics in 1957, 1968, and 2009 to reassortant viruses¹⁴ that contained genetic segments from human seasonal flu viruses and animal influenza viruses.¹⁵

Although comparatively little is known about some other zoonotic diseases, such as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; the virus that caused COVID-19), there is a large body of knowledge about avian influenza viruses, including methods to dampen virus spread and vaccines to treat infections.¹⁶

Some Members of Congress have expressed concerns in hearings and letters to federal agencies about the spread of H5N1 and its potential health effects on humans, as well as its economic effects on agriculture, especially in the poultry and livestock industries.¹⁷ For example, several Members asked about the impact of avian influenza on poultry flocks and the availability and price of eggs,¹⁸ the potential for avian influenza to circulate among humans,¹⁹ and communication between the federal government and stakeholders, among other issues.²⁰ Concern over avian influenza is not new to Congress. Congress has expressed interest in the origins and effects of diseases as pandemics have emerged. For example, the House Committee on International

See CDC, “H5 Bird Flu: Current Situation,” May 30, 2025, <https://www.cdc.gov/bird-flu/situation-summary/index.html>.

¹¹ Krammer et al., “Highly Pathogenic Avian Influenza H5N1: History.” See Appendix B for definitions of selected terms, including *reassortment*.

¹² Thomas P. Peacock et al., “The Global H5N1 Influenza Panzootic in Mammals,” *Nature*, vol. 637, no. 8045 (January 2025), pp. 304-313 (hereinafter Peacock et al., “The Global H5N1 Influenza Panzootic in Mammals”); and Walter N. Harrington et al., “The Evolution and Future of Influenza Pandemic Preparedness,” *Experimental and Molecular Medicine*, vol. 53 (2021), pp. 737-749 (hereinafter Harrington et al., “The Evolution and Future of Influenza Pandemic Preparedness”).

¹³ Krammer et al., “Highly Pathogenic Avian Influenza H5N1: History.”

¹⁴ A reassortant virus is created through reassortment, a process in which viruses with segmented genomes exchange genetic material during coinfection.

¹⁵ Eefje J. A. Schrauwen and Ron A. M. Fouchier, “Host Adaptation and Transmission of Influenza A Viruses in Mammals,” *Emerging Microbes and Infections*, vol. 3, no. 2 (2014).

¹⁶ Krammer et al., “Highly Pathogenic Avian Influenza H5N1: History.”

¹⁷ For more information on the effects of H5N1 on the poultry industry, see CRS Report R48518, *The Highly Pathogenic Avian Influenza (HPAI) Outbreak in Poultry, 2022-Present*, by Lia Biondo.

¹⁸ For example, see Sen. Charles Schumer, “Bird Flu,” remarks in the Senate, *Congressional Record*, daily edition, vol. 171, no. 17 (January 27, 2025), p. S386.

¹⁹ For example, see letter from Rep. Jamie Raskin and Rep. Robert Garcia to Hon. Xavier Becerra, Secretary, U.S. Department of Health and Human Services (HHS), December 13, 2024, <https://oversightdemocrats.house.gov/sites/evo-subsites/democrats-oversight.house.gov/files/evo-media-document/2024-12-13.JBR%20Garcia%20to%20Becerra-HHS%20re%20HPAI%20-%20Public%20Health.pdf>.

²⁰ For example, see letter from Rep. Donald S. Beyer Jr. et al. to Gary Washington, Acting Secretary, USDA, and Susan C. Monarez, Acting Director, CDC, February 4, 2025, https://beyer.house.gov/uploadedfiles/congressional_letter_-_help_virginia_bird_flu_response_-_02-04-2025.pdf.

Relations held a hearing in 2005 entitled “Avian Flu: Addressing the Global Threat,” to gauge the potential for avian influenza to spread to the United States.²¹

This report provides an overview of avian influenza viruses, how they are named and classified (including H5N1), how they spread and evolve, and efforts by federal agencies to manage viruses. The report also discusses the current outbreak of H5N1 in the United States and some issues that Congress may wish to consider. There is a glossary of select terms in **Appendix B**.

Background on Influenza A and Avian Influenza

Influenza viruses are part of the *Orthomyxoviridae* family and are grouped into four main types: A, B, C, and D.²² Type A viruses are known to infect a large variety of birds and mammals (including humans), whereas the other types (B, C, and D) are restricted to certain host ranges.²³ Influenza A viruses, which include all avian influenza viruses, have eight distinct genomic segments. Influenza A viruses are classified into subtypes based on the combinations of proteins on the virus surface.²⁴ Influenza A animal viruses infect various species and are named after their host animal, for example, avian influenza, swine influenza, or canine influenza.²⁵ Despite these categories, cross-species transmission of these viruses are common. Influenza A, for example, was responsible for the Spanish flu pandemic (1918-1919), which originated in the United States and killed an estimated 50-100 million people worldwide, as well as other outbreaks described in **Table 1**.

Avian influenza was originally referred to as a “fowl plague” and was first identified in Italy in 1878.²⁶ In the 20th century, the fowl plague was classified as a type A influenza virus.²⁷ In 1924, avian influenza infected poultry in the United States, causing severe losses in live bird markets in New York City. In the 1950s, phylogenetic studies showed that avian and human influenza viruses were related.²⁸ By this time, avian influenza had been reported in poultry in most of Europe, Russia, North America, South America, the Middle East, Africa, and Asia. Subsequently, there have been several outbreaks of avian influenza throughout the world. Scientists have also attributed an avian origin to subsequent human influenza viruses that caused outbreaks in 1957 and 1968.²⁹

²¹ U.S. Congress, House Committee on International Relations, *Avian Flu: Addressing the Global Threat*, 109th Cong., 1st sess., December 7, 2005, S.Hrg. 109-137.

²² Andrew M. Q. King et al., ed. “Family – Orthomyxoviridae,” in *Virus Taxonomy: Ninth Report of the International Committee on Taxonomy of Viruses*, pp. 749-761 (Elsevier, 2012), <https://doi.org/10.1016/B978-0-12-384684-6.00061-6>.

²³ Samantha J. Lycett et al., “A Brief History of Bird Flu,” *Philosophical Transactions of the Royal Society B*, vol. 374, no. 1775 (2019), <https://doi.org/10.1098/rstb.2018.0257> (hereinafter Lycett et al., “A Brief History of Bird Flu”).

²⁴ World Health Organization (WHO), “Influenza (Avian and Other Zoonotic),” October 3, 2023, [https://www.who.int/news-room/fact-sheets/detail/influenza-\(avian-and-other-zoonotic\)](https://www.who.int/news-room/fact-sheets/detail/influenza-(avian-and-other-zoonotic)).

²⁵ WHO, “Influenza (Avian and Other Zoonotic),” October 3, 2023, [https://www.who.int/news-room/fact-sheets/detail/influenza-\(avian-and-other-zoonotic\)](https://www.who.int/news-room/fact-sheets/detail/influenza-(avian-and-other-zoonotic)).

²⁶ B. Lee Ligon, “Avian Influenza Virus H5N1: A Review of Its History and Information Regarding Its Potential to Cause the Next Pandemic,” *Seminars in Pediatric Infectious Diseases*, vol. 16, no. 4 (2005), pp. 326-335 (hereinafter Ligon, “Avian Influenza Virus H5N1: A Review of Its History”); and CDC, “Highlights in the History of Avian Influenza (Bird Flu),” June 1, 2024, <https://www.cdc.gov/bird-flu/avian-timeline/index.html>.

²⁷ Ligon, “Avian Influenza Virus H5N1: A Review of Its History.”

²⁸ Lycett et al., “A Brief History of Bird Flu.”

²⁹ R. Fang et al., “Complete Structure of A/duck/Ukraine/63 Influenza Hemagglutinin Gene: Animal Virus as Progenitor of Human H3 Hong Kong 1968 Influenza Hemagglutinin,” *Cell*, vol. 25, no. 2 (1981), pp. 315-323, (continued...)

Classification of Avian Influenza

Avian influenza A viruses are classified into two categories: highly pathogenic avian influenza (HPAI), which can cause severe clinical signs and possible high mortality rates in wild birds and poultry, and low pathogenic avian influenza (LPAI), which typically causes few or no clinical signs.³⁰ LPAI viruses have the ability to mutate into HPAI viruses. For example, an LPAI H5N2 that was circulating in chickens in the United States in 1983 became an HPAI within six months.³¹

Avian influenza is further classified into subtypes based on two surface proteins, hemagglutinin (H) and neuraminidase (N). Each of the subtypes are numerical combinations of H and N, such as H5N1, H7N2, and H7N8. The numbers represent a different subtype of each surface protein. (See the text box on nomenclature for more information.) Each distinct subtype evolves into clades and subclades (i.e., genetic groups separated according to DNA sequences).³² For example, since the emergency of H5N1 lineage in China in 1996, the virus has evolved and been grouped into 10 clades and multiple subclades.³³ The recent outbreaks of H5N1 around the world are attributed to the 2.3.4.4b clade of H5N1.³⁴

[https://doi.org/10.1016/0092-8674\(81\)90049-0](https://doi.org/10.1016/0092-8674(81)90049-0); and Judith R. Schäffr et al., “Origin of the Pandemic 1957 H2 Influenza A Virus and the Persistence of Its Possible Progenitors in the Avian Reservoir,” *Virology*, vol. 194, no. 2 (1993), 781-788, <https://doi.org/10.1006/viro.1993.1319>. The subsequent two human pandemics (1957 and 1968) were not caused by completely avian-origin viruses but rather by reassortant viruses with avian origin (Lycett et al., “A Brief History of Bird Flu”).

³⁰ World Organisation for Animal Health (WOAH), “What Is Avian Influenza?,” 2025, <https://www.woah.org/en/disease/avian-influenza/>.

³¹ Ligon, “Avian Influenza Virus H5N1: A Review of Its History”; and CDC, “1960-1999 Highlights in the History of Avian Influenza (Bird Flu) Timeline,” April 30, 2024, <https://www.cdc.gov/bird-flu/avian-timeline/1960-1999.html>.

³² A *clade* is a group of organisms (e.g., viruses) that evolved from a common ancestor. For avian influenza, it is the organization of the hemagglutinin gene highly pathogenic avian influenza, based on molecular analysis. “The mutation of the [hemagglutinin gene] has resulted in genetically divergent groups of virus strains termed clades such as 2.3.4.4b.” Food and Agriculture Organization of the United Nations and WOAH, *Global Strategy for the Prevention and Control of High Pathogenicity Avian Influenza (2024–2033)*, 2025, p. 23, <https://www.woah.org/app/uploads/2025/02/web-gf-tads-hpai-strategy-woah.pdf>.

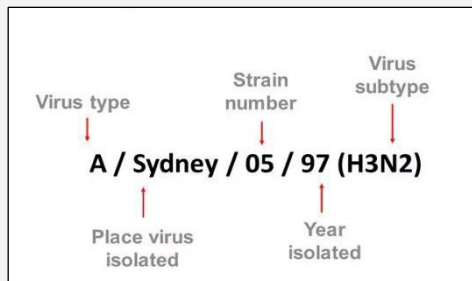
³³ Dong-Hun Lee et al., “Evolution, Global Spread, and Pathogenicity of Highly Pathogenic Avian Influenza H5Nx Clade 2.3.4.4,” *Journal of Veterinary Science*, vol. 18, no. S1 (2017), pp. 269-280.

³⁴ Gina R. Castro-Sanguinetti et al., “Highly Pathogenic Avian Influenza Virus H5N1 Clade 2.3.4.4b from Peru Forms a Monophyletic Group with Chilean Isolates in South America,” *Scientific Reports*, vol. 14 (February 13, 2024).

Nomenclature of Avian Influenza Virus

Influenza viruses have a standard nomenclature that includes the virus type; location at which it was isolated; isolate number; isolate year; and, for influenza A viruses, subtype (see **Figure 2**). Influenza A viruses are divided into subtypes based on two proteins on the surface of the virus: hemagglutinin (H) and neuraminidase (N). There are 18 different hemagglutinin subtypes and 11 different neuraminidase subtypes represented by H1 through H18 and N1 through N11; these impact the spread and severity of the virus. Many different combinations of H and N proteins are possible. Each combination is considered a different subtype and can be further broken down into different strains, for example, H5N1 and H7N9. Over time, a classification system was developed to distinguish between subtypes of influenza on the basis of the antigenic properties (characteristics of a molecule's ability to trigger an immune response) of their structural and surface proteins—specifically, the nucleoprotein (NP) (type) and hemagglutinin (HA) (subtype) and neuraminidase (NA) (subtype) proteins. HA provides a virus with the ability to attach to a host cell and is also the target for a host cell's immune response.

Figure 2. Nomenclature of Influenza Viruses



Source: CRS, adapted from U.S. Centers for Disease Control and Prevention, “Highlights in the History of Avian Influenza (Bird Flu),” June 1, 2024, <https://www.cdc.gov/bird-flu/avian-timeline/index.html>.

Transmission and Spillover of Avian Influenza Among Wildlife

Avian influenza is spread by wild birds that naturally carry different forms of the avian influenza virus. Wild birds, specifically waterfowl, from two orders, *Anseriformes* (i.e., ducks, geese, and swans) and *Charadriiformes* (i.e., gulls, terns, and sandpipers), are natural reservoirs of influenza A virus.³⁵ The avian influenza virus is thought to have low pathogenicity in these species. One study suggests that these types of birds have carried the virus without developing symptoms for thousands of years.³⁶ However, other species of birds that get infected by this virus can demonstrate a wide spectrum of reactions, ranging from mild illness to a highly contagious and rapidly fatal sickness that can result in severe epidemics among bird species. Avian influenza viruses can become highly pathogenic and cause high mortality in birds, nearing 100% mortality within 48 hours in some species, according to scientists.³⁷

Avian influenza is globally spread by birds that fly long distances via migratory pathways. For example, one study that examined data between 2003 and 2012 found that the timing of H5N1 outbreaks in Eastern Asia followed wild bird migratory flyways.³⁸ Avian influenza can also be

³⁵ The order *Anseriformes* comprises about 180 species of birds, and the order *Charadriiformes* comprises about 390 species of birds. Reservoirs of an infectious agent are the habitats in which a virus can live, grow, and multiply. See CDC, “Lesson 1: Introduction to Epidemiology,” May 18, 2012, https://archive.cdc.gov/www_cdc_gov/csels/dsepd/ss1978/lesson1/section10.html.

³⁶ Ligon, “Avian Influenza Virus H5N1: A Review of Its History.”

³⁷ Ligon, “Avian Influenza Virus H5N1: A Review of Its History.”

³⁸ Huaiyu Tian et al., “Avian Influenza H5N1 Viral and Bird Migration Networks in Asia,” *Proceedings of the National Academy of Sciences, USA*, vol. 112, no. 1 (2014), pp. 172-177.

spread globally and regionally through the trade in infected poultry.³⁹ This can include trading between backyard chicken flocks.

Migratory pathways can be conduits for the spread of avian influenza to mammals from wild birds. Some scientists assert that infections of avian influenza in certain mammal species were found along flyways (**Figure 3**) used by migratory birds.⁴⁰ Several mammal species, including cattle and humans, were infected by avian influenza from birds and poultry in the current U.S. outbreak, which was first reported in 2022.⁴¹ Avian influenza has spread from birds to mammals, sometimes through direct contact or in some cases through contact with contaminated fecal matter.⁴² Scientists report that several terrestrial carnivores such as foxes, raccoons, and bobcats have been infected after scavenging dead, infected birds.⁴³ Marine mammal species such as sea lions, elephant seals, dolphins, porpoises, and sea otters have been infected with avian influenza, presumably from interactions with infected sea birds.⁴⁴ Overall, the mechanisms of viral spillover from birds to other organisms is not fully understood.⁴⁵ Some studies indicate that a viral adaptation to mammals might lead to an increased risk of transmission and disease.⁴⁶

³⁹ M. Gauthier-Clerc et al., “Recent Expansion of Highly Pathogenic Avian Influenza H5N1: A Critical Review,” *IBIS: International Journal of Avian Science*, vol. 149, no. 2 (2007), pp. 202-214.

⁴⁰ Stephanie Sonnberg et al., “Natural History of Highly Pathogenic Avian Influenza H5N1,” *Virus Research*, vol. 178, no. 1 (2013) (hereinafter Sonnberg et al., “Natural History of Highly Pathogenic Avian Influenza H5N1”).

⁴¹ CDC, “H5 Bird Flu: Current Situation,” May 30, 2025, <https://www.cdc.gov/bird-flu/situation-summary/index.html>.

⁴² Sonnberg et al., “Natural History of Highly Pathogenic Avian Influenza H5N1.”

⁴³ Peacock et al., “The Global H5N1 Influenza Panzootic in Mammals.”

⁴⁴ Peacock et al., “The Global H5N1 Influenza Panzootic in Mammals.”

⁴⁵ Timothy M. Uyeki, “Highly Pathogenic Avian Influenza A(H5N1) Virus Infection in a Dairy Farm Worker,” *New England Journal of Medicine*, vol. 390, no. 21 (May 3, 2024), pp. 2028-2029.

⁴⁶ Catalina Pardo-Roa, “Cross-Species and Mammal-to-Mammal Transmission of Clade 2.3.4.4b Highly Pathogenic Avian Influenza A/H5N1 with PB2 Adaptations,” *Nature Communications*, vol. 16 (March 6, 2025) (hereinafter Pardo-Roa, “Cross-Species and Mammal-to-Mammal Transmission of Clade 2.3.4.4b”).

Figure 3. North American Bird Migration Flyways

Source: Audubon, “Birds on the Move,” in *Audubon Adventures*, https://www.audubonadventures.org/migration_kids.htm (illustration by Thinkstock/Bluebird Design).

Note: Hawaii is part of the broader Pacific Flyway and is not shown on this map. The central portion of the Pacific Flyway extends across the ocean from New Zealand to islands like Hawaii and up through the Alaskan Arctic.

Some scientists contend that extensive mammal-to-mammal transmission of H5N1 could be an indicator of or precursor to human-to-human transmission and could justify heightened biosurveillance efforts.⁴⁷ Most mammalian cases of avian influenza result in *dead-end* infections, meaning there is no transmission among species or to other hosts, according to some scientists.⁴⁸ However, in some instances, scientists have reported mammal-to-mammal transmission within and between mammal species. For example, H5N1 virus was suspected to be transmitted among animals in fur farms (mink, arctic foxes, and raccoon dogs) in Europe within the last five years.⁴⁹ Mammal-to-mammal transmission was suggested in this case, as well as transmission through contamination from equipment, clothing, and carcasses. Mammal-to-mammal transmission was also suspected among sea lions in Peru and Chile, although uncertainty exists as to whether the infections were due to interactions with birds or mammals.⁵⁰ In other cases, however, transmission among mammals might happen through animal products such as raw milk or

⁴⁷ Marcela M. Uhart, “Massive Outbreak of Influenza A H5N1 in Elephant Seals at Península Valdés, Argentina: Increased Evidence for Mammal-to-Mammal Transmission,” *Nature Communications*, vol. 15 (2024).

⁴⁸ Peacock et al., “The Global H5N1 Influenza Panzootic in Mammals.”

⁴⁹ Lauri Kareinen et al., “Highly Pathogenic Avian Influenza A(H5N1) Virus Infections on Fur Farms Connected to Mass Mortalities of Black-Headed Gulls, Finland, July to October 2023,” *Eurosurveillance*, vol. 29, no. 25 (June 20, 2024).

⁵⁰ Pardo-Roa, “Cross-Species and Mammal-to-Mammal Transmission of Clade 2.3.4.4b.”

through consumption of carcasses of infected animals.⁵¹ Lastly, in the United States, scientists attribute H5N1 infections in humans and cats to interactions with infected cattle and contaminated raw milk. According to scientists, infections could be spread from cattle to cattle through contaminated milking equipment.⁵²

Avian Influenza Mutation and Reassortment

Influenza viruses are highly variable in terms of their interactions with one another, their hosts, and the environment.⁵³ When two or more viruses infect a single host at the same time, they can “swap” segments of their genome (i.e., genetic reassortment), resulting in a new hybrid virus.⁵⁴ These hybrid viruses can have new traits that lead to properties that affect transmissibility, virulence, and host variability.⁵⁵ H5N1 can also undergo mutations that may lead to new traits or characteristics that influence its transmission. According to scientists, monitoring and measuring changes in H5N1 are paramount for trying to understand whether H5N1 could gain or has gained the ability to transmit from human to human.⁵⁶ (The section “Spillover to Humans and Transmission Among Humans” provides additional information on human infections and possible routes of transmission.)

Scientists are concerned about the ability of H5N1 and H5Nx Clade 2.3.4.4b viruses to expand globally, spill over into mammals, and evolve through genomic reassortment and mutations.⁵⁷ The concern is centered on the potential of the virus to “evolve towards more efficient mammalian transmission and increase the risk of a global pandemic.”⁵⁸ To determine the extent of the outbreak and how the virus is evolving, scientists are collecting samples from infected seabirds, birds of prey, backyard poultry, commercial poultry, marine and terrestrial mammals, and humans.⁵⁹ They extract and sequence viral ribonucleic acid (RNA) from these samples and compare strands for similarities and differences to hypothesize about the evolution and transmission of H5N1. Most of this work is being done with birds and mammals to determine how the virus has been, or is being, transmitted over time and space among species. This information is also being used to test the hypothesis that H5N1 has evolved into viral strains that allow for mammal-to-mammal transmission. Sustained mammal-to-mammal spread of H5N1 does not appear to be definitively verified; however, several studies provide evidence that it has

⁵¹ Massimo Galli et al., “H5N1 Influenza A Virus: Lessons from Past Outbreaks and Emerging Threats,” *Le Infezioni in Medicina*, vol. 1 (2025), pp. 76-89 (hereinafter Galli et al., “H5N1 Influenza A Virus: Lessons from Past Outbreaks”).

⁵² For example, see Peacock et al., “The Global H5N1 Influenza Panzootic in Mammals.”

⁵³ Sonnberg et al., “Natural History of Highly Pathogenic Avian Influenza H5N1.”

⁵⁴ Y. Kawaoka et al., “Avian-to-Human Transmission of the PB1 Gene of Influenza A Viruses in the 1957 and 1968 Pandemics,” *Journal of Virology*, vol. 63, no. 11 (1989).

⁵⁵ Peacock et al., “The Global H5N1 Influenza Panzootic in Mammals.”

⁵⁶ Dhillon et al., “Steps to Prevent and Respond to an H5N1 Epidemic in the USA.” Some scientists express concern when an avian flu virus coinfects a species that may be harboring another virus that can infect humans. They suggest that the resulting hybrid avian flu virus could evolve to enable human-to-human transmission.

⁵⁷ Mohammad Jawad Jahid and Jacqueline M. Nolting, “Dynamics of a Panzootic: Genomic Insights, Host Range, and Epidemiology of the Highly Pathogenic Avian Influenza A(H5N1) Clade 2.3.4.4b in the United States,” *Viruses*, vol. 17, no. 3 (2025) (hereinafter Jahid and Nolting, “Dynamics of a Panzootic”).

⁵⁸ Pardo-Roa, “Cross-Species and Mammal-to-Mammal Transmission of Clade 2.3.4.4b.”

⁵⁹ For example, see Pardo-Roa, “Cross-Species and Mammal-to-Mammal Transmission of Clade 2.3.4.4b.”

occurred among some species in certain cases, such as marine mammals in South America,⁶⁰ fur-producing species in European fur farms, and cattle.⁶¹

On the basis of these types of studies, scientists have identified two main variants of H5N1, which are being monitored in species in the United States: (1) B3.13, spreading mainly in cows in the United States, and (2) D1.1, found mostly in wild and domesticated birds, including poultry.⁶² Scientists hypothesize that mutations in B3.13 could lead to H5N1 viruses that could more readily bind to human cells, potentially leading to human-to-human transmission.⁶³ For example, in one study of H5N1, scientists introduced several mutations into a viral HA protein and found that one mutation improved the ability of the virus to attach to receptors found on human cells.⁶⁴ In another study, some scientists reportedly identified mutations in B3.13 that appear in genes that encode certain viral proteins that make it easier to replicate in airway linings in cows and humans.⁶⁵ These mutations, according to the study, may make the virus better adapted to reside in human cells.⁶⁶

The Rise of H5N1 Avian Influenza

H5N1 avian influenza is spreading throughout the world in wild birds, wildlife, marine mammals, and commercial poultry, dairy, and fur farms. H5N1 from Clade 2.3.4.4b is the dominant form of the currently spreading avian influenza virus.

H5N1 avian influenza virus was identified in chickens in Scotland in 1959 and then in turkeys in England in 1991.⁶⁷ In 1996, commercially farmed geese in the Guangdong Province of China contracted H5N1, presumably from wild birds. Infected geese led to outbreaks of H5N1 in chicken farms in Hong Kong in 1997, which also led to human infections and fatalities. All poultry in Hong Kong were killed in 1997 and 1998; however, several strains of H5N1 were later detected in wild and domesticated birds outside of these farms. Poultry outbreaks and human cases followed in 2003 in mainland China and countries in southeast Asia such as Vietnam and Thailand. Avian influenza viruses later were grouped into clades, including Clade 2.3.4.4b, which can be traced back to 2016, when it was found in domesticated poultry flocks in East and Southeast Asia.⁶⁸ The initial outbreaks of this clade were limited to avian species and caused losses in the poultry industry in the areas where infections were detected. Clade 2.3.4.4b was disseminated throughout the world in birds flying on migratory bird flyways and through global

⁶⁰ Pardo-Roa, “Cross-Species and Mammal-to-Mammal Transmission of Clade 2.3.4.4b.”

⁶¹ Leonardo C. Caserta et al., “Spillover of Highly Pathogenic Avian Influenza H5N1 Virus to Dairy Cattle,” *Nature*, vol. 634 (July 25, 2024), pp. 669-676.

⁶² Max Koslov, “Will Bird Flu Spark a Human Pandemic? Scientists Say the Risk Is Rising,” *Nature*, vol. 638 (January 27, 2025), pp. 16-17.

⁶³ Nguyen et al., “Emergence and Interstate Spread of Highly Pathogenic Avian Influenza A(H5N1).”

⁶⁴ Several other changes in the virus would be needed for human-to-human transmission; the mutation studied would be a *stepping stone* mutation to transmission. See Ting Hui-Lin et al., “A Single Mutation in Bovine Influenza H5N1 Hemagglutinin Switches Specificity to Human Receptors,” *Science*, vol. 386, no. 6726 (December 5, 2024), pp. 1128-1134.

⁶⁵ Vidhi Dholakia et al., “Polymerase Mutations Underlie Early Adaptation of H5N1 Influenza Virus to Dairy Cattle and Other Mammals,” *BioRxiv* (preprint), January 6, 2025 (hereinafter Dholakia et al., “Polymerase Mutations Underlie Early Adaptation of H5N1”).

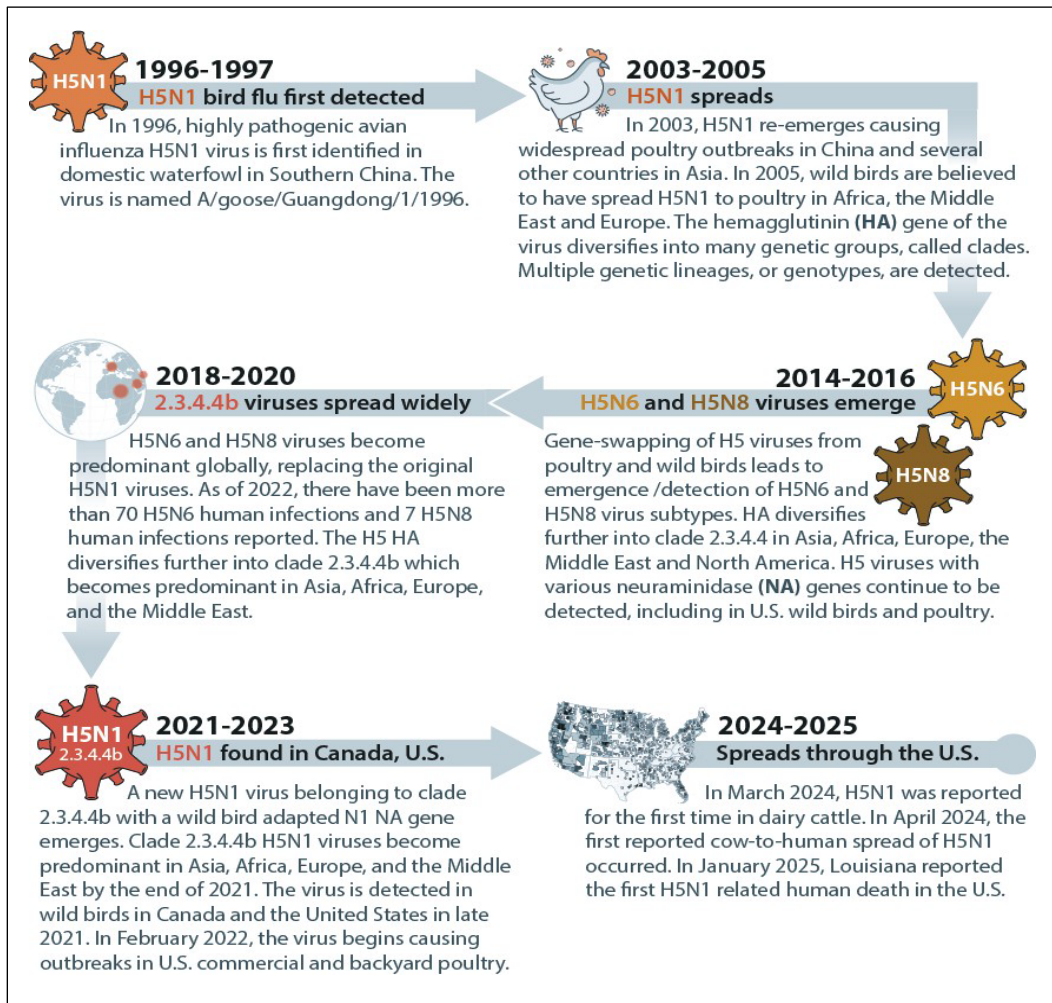
⁶⁶ Dholakia et al., “Polymerase Mutations Underlie Early Adaptation of H5N1.”

⁶⁷ Alejandro Mena et al., “The Impact of Highly Pathogenic Avian Influenza H5N1 in the United States: A Scoping Review of Past Detections and Present Outbreaks,” *Viruses*, vol. 17, no. 307 (February 24, 2025) (hereinafter Mena et al., “The Impact of Highly Pathogenic Avian Influenza H5N1 in the United States”).

⁶⁸ Xie et al., “The Episodic Resurgence of Highly Pathogenic Avian Influenza H5 Virus.”

trade networks.⁶⁹ In late 2021, H5N1 Clade 2.3.4.4b was introduced to North America from Eurasia by birds flying within the East Atlantic Flyway, according to some scientists,⁷⁰ and spread to several wildlife species, including foxes, skunks, bears, bobcats, and raccoons, as well as cattle and humans.⁷¹ **Figure 4** depicts the spread of avian influenza viruses since 1996.

Figure 4. Identification, Evolution, and Spread of Avian Influenzas
(1996-2025)



Source: CRS, adapted from Centers for Disease Control and Prevention, “Emergence and Evolution of H5N1 Bird Flu,” June 6, 2023, https://archive.cdc.gov/www_cdc_gov/flu/avianflu/communication-resources/bird-flu-origin-infographic.html.

H5N1 Avian Influenza in the United States

Avian influenza has been active on and off in the United States for at least the last century. Scientists reported that the first outbreak of an HPAI in the United States occurred in 1924,

⁶⁹ Xie et al., “The Episodic Resurgence of Highly Pathogenic Avian Influenza H5 Virus.”

⁷⁰ Xie et al., “The Episodic Resurgence of Highly Pathogenic Avian Influenza H5 Virus.”

⁷¹ Eric R. Burrough et al., “Highly Pathogenic Avian Influenza A(H5N1) Clade 2.3.4.4b Virus Infection in Domestic Dairy Cattle and Cats, United States, 2024,” *Emerging Infectious Diseases*, vol. 30, no. 7 (July 2024).

causing severe losses of birds in markets in New York City.⁷² By the 1950s, avian influenza was reported in poultry in most of Europe, Russia, North America, South America, the Middle East, Africa, and Asia.⁷³ (**Appendix A** provides a history of avian influenza events from 1878 through the current outbreak of H5N1.)

H5N1 Clade 2.3.4.4b began spreading throughout the United States in 2022. Evidence of H5N1 infections was found in wild birds, poultry, and scavenging birds such as vultures, among others.⁷⁴ From 2022 through May 2025, over 13,000 wild birds were found to be infected with H5N1 (**Figure 5**).⁷⁵ Wild bird samples are collected by the Animal and Plant Health Inspection Service (APHIS) Wildlife Disease Program and screened for avian influenza viruses. The data are analyzed and reported by the wild bird surveillance program. This program aims to be an early warning system for the introduction and distribution of avian influenza viruses in the United States.⁷⁶

⁷² CDC, “1880-1959 Highlights in the History of Avian Influenza (Bird Flu) Timeline,” April 30, 2024, <https://www.cdc.gov/bird-flu/avian-timeline/1880-1959.html>.

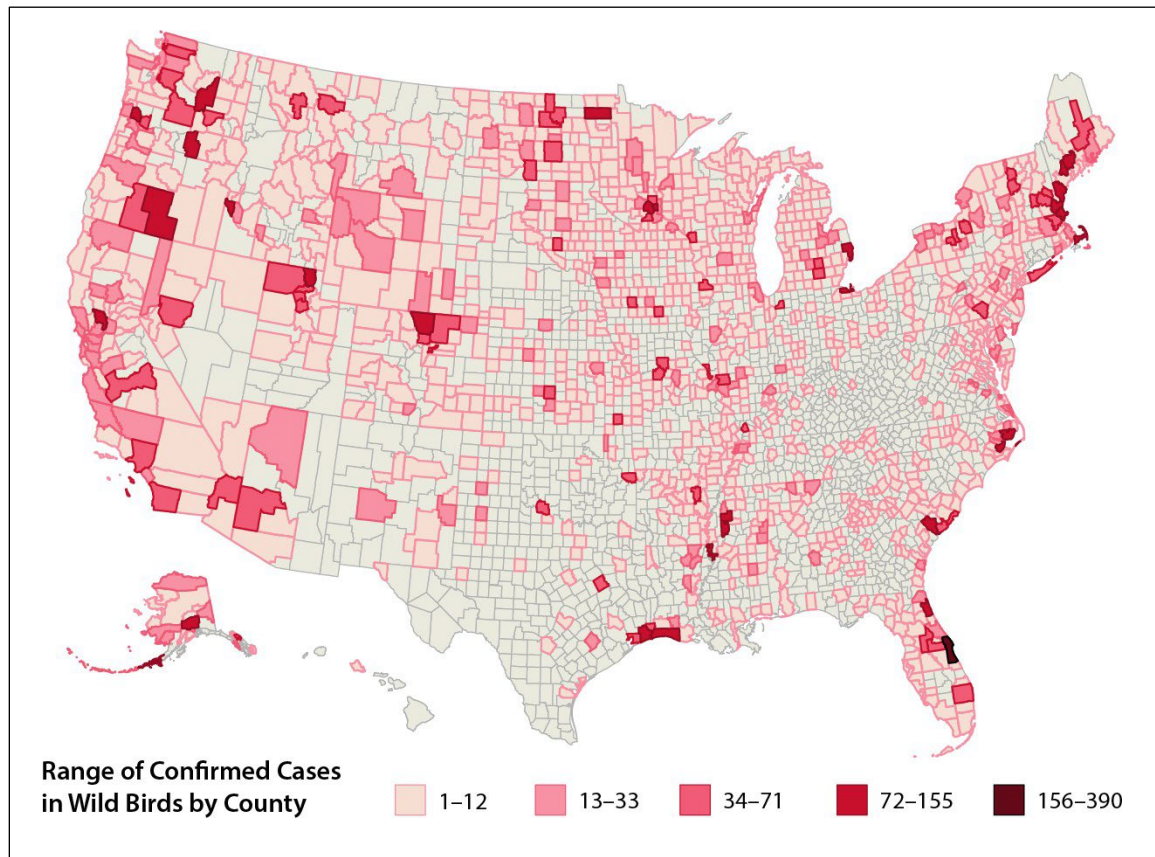
⁷³ CDC, “1880-1959 Highlights in the History of Avian Influenza (Bird Flu) Timeline,” April 30, 2024, <https://www.cdc.gov/bird-flu/avian-timeline/1880-1959.html>.

⁷⁴ Mena et al., “The Impact of Highly Pathogenic Avian Influenza H5N1 in the United States.”

⁷⁵ U.S. Animal and Plant Health Inspection Service (APHIS), “Detections of Highly Pathogenic Avian Influenza in Wild Birds,” May 13, 2025, <https://www.aphis.usda.gov/livestock-poultry-disease/avian/avian-influenza/hpai-detections/wild-birds> (hereinafter APHIS, “Detections of Highly Pathogenic Avian Influenza in Wild Birds”).

⁷⁶ APHIS, “Detections of Highly Pathogenic Avian Influenza in Wild Birds.”

Figure 5. Number of Confirmed Cases of Avian Influenza in U.S. Wild Birds
January 12, 2022-May 16, 2025



Source: CRS, using data taken from Animal and Plant Health Inspection Service, “Detections of Highly Pathogenic Avian Influenza in Wild Birds,” May 16, 2025, <https://www.aphis.usda.gov/livestock-poultry-disease/avian/avian-influenza/hpai-detections/wild-birds>.

H5N1 has also spread among commercial and backyard poultry flocks in the United States. During this recent outbreak, APHIS first confirmed H5N1 in a commercial poultry flock in February 2022.⁷⁷ Since this detection until May 2025, APHIS has reported avian influenza in 1,705 commercial and backyard flocks in all states in the United States (**Figure 6**).⁷⁸ Over 170 million birds were reported to be infected by the virus during this time. The majority of infected birds, over 80 million in total, were in Iowa, California, and Ohio.⁷⁹ For additional information about H5N1 in poultry, see CRS Report R48518, *The Highly Pathogenic Avian Influenza (HPAI) Outbreak in Poultry, 2022-Present*, by Lia Biondo.

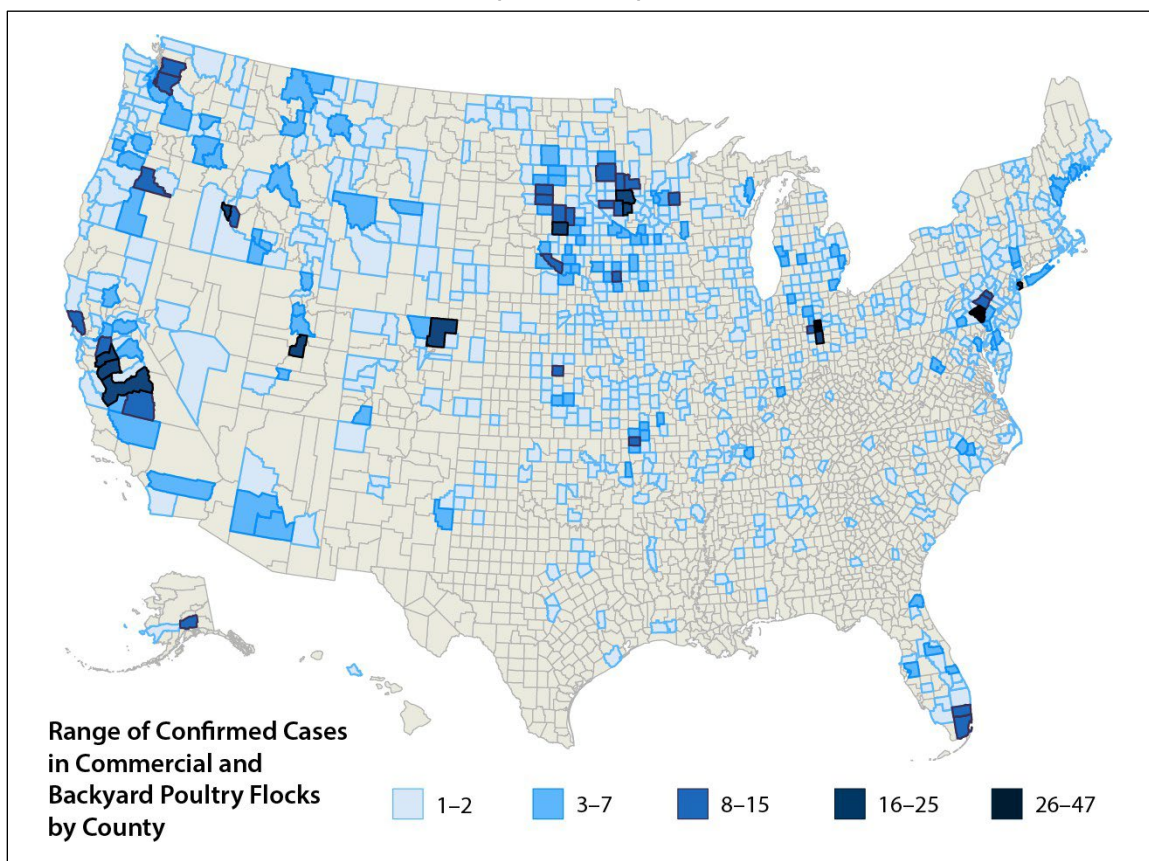
⁷⁷ APHIS, “Confirmations of Highly Pathogenic Avian Influenza in Commercial and Backyard Flocks,” March 17, 2025, <https://www.aphis.usda.gov/livestock-poultry-disease/avian/avian-influenza/hpai-detections/commercial-backyard-flocks> (hereinafter APHIS, “Confirmations of Highly Pathogenic Avian Influenza in Commercial and Backyard Flocks”).

⁷⁸ APHIS, “Confirmations of Highly Pathogenic Avian Influenza in Commercial and Backyard Flocks.”

⁷⁹ APHIS, “Confirmations of Highly Pathogenic Avian Influenza in Commercial and Backyard Flocks.”

Figure 6. Number of Confirmed Cases of Avian Influenza in U.S. Commercial and Backyard Poultry Flocks

February 8, 2022-May 30, 2025



Source: CRS, using data taken from Animal and Plant Health Inspection Service, “Confirmations of Highly Pathogenic Avian Influenza in Commercial and Backyard Flocks,” May 30, 2025, <https://www.aphis.usda.gov/livestock-poultry-disease/avian/avian-influenza/hpai-detections/commercial-backyard-flocks>.

Notes: Poultry consists of egg layers, broilers, and turkeys. Testing did not delineate virus strains.

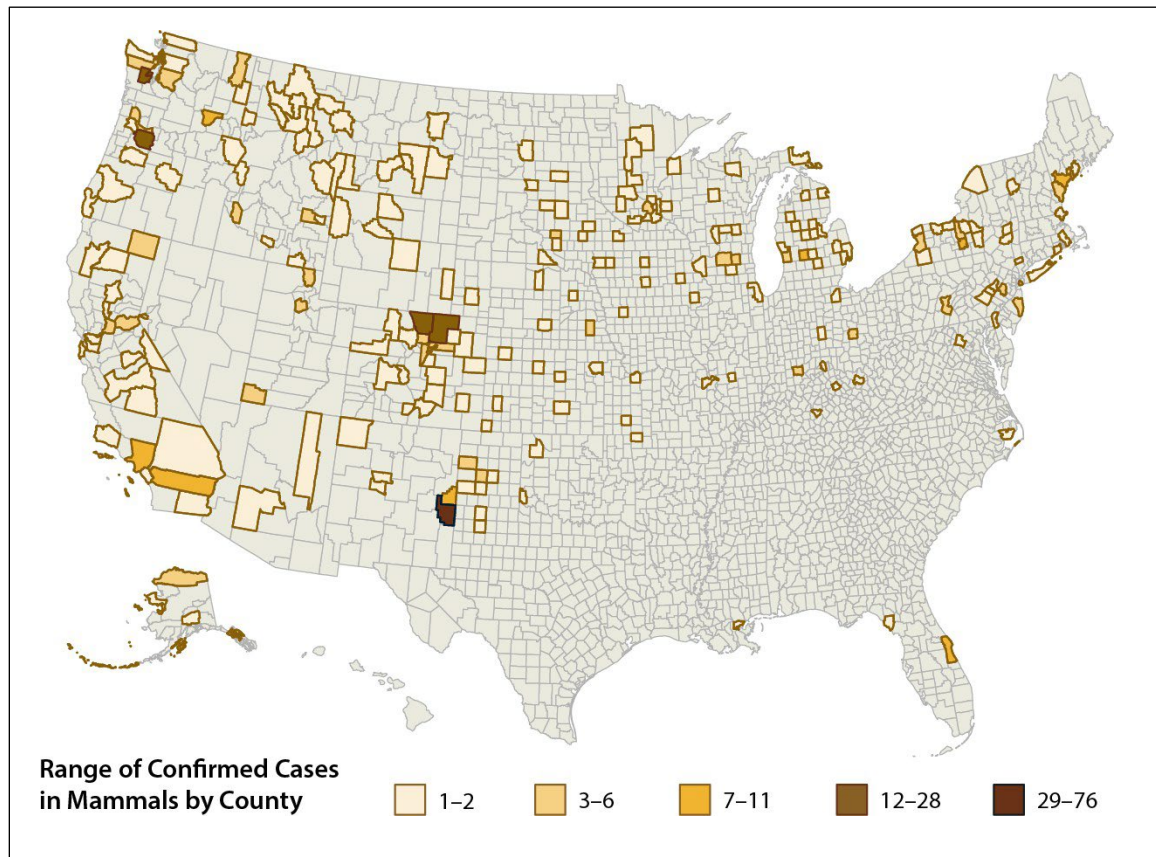
From 2022 to May 2025, there were 617 reported avian influenza infections in mammals in the United States (**Figure 7**).⁸⁰ Infections in mammals generally cause illness and, in some cases, death.⁸¹ Reported infections in the United States were found in domestic cats, harbor seals, mountain lions, house and deer mice, skunks, racoons, and foxes.⁸²

⁸⁰ APHIS, “Detections of Highly Pathogenic Avian Influenza in Mammals,” May 15, 2025, <https://www.aphis.usda.gov/livestock-poultry-disease/avian/avian-influenza/hpai-detections/mammals> (hereinafter APHIS, “Detections of Highly Pathogenic Avian Influenza in Mammals”).

⁸¹ APHIS, “Detections of Highly Pathogenic Avian Influenza in Mammals.”

⁸² APHIS, “Detections of Highly Pathogenic Avian Influenza in Mammals.”

Figure 7. Number of Confirmed Cases of Avian Influenza in U.S. Mammals
May 5, 2022-May 15, 2025

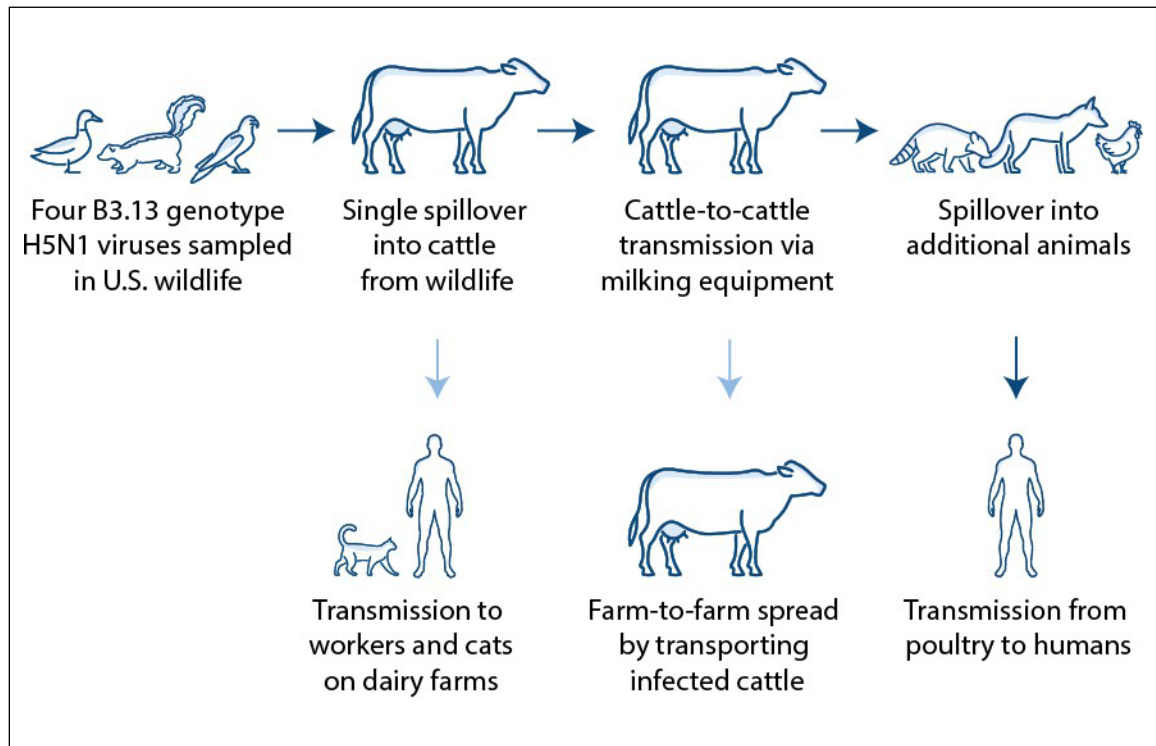


Source: CRS, using data taken from Animal and Plant Health Inspection Service, “Detections of Highly Pathogenic Avian Influenza in Mammals,” May 15, 2025, <https://www.aphis.usda.gov/livestock-poultry-disease/avian/avian-influenza/hpai-detections/mammals>.

H5N1 was first reported in cattle in the United States in Texas in March 2024. The genotype that infected U.S. cattle was from B3.13 and is thought to have originated with a bird-to-cow transmission event earlier than the reported infection.⁸³ The virus continues to spread among dairy herds likely through interstate transport of infected animals, use of contaminated equipment, and other bird-to-cow transmission events (**Figure 8**).⁸⁴

⁸³ Krammer et al., “Highly Pathogenic Avian Influenza H5N1: History.”

⁸⁴ Peacock et al., “The Global H5N1 Influenza Panzootic in Mammals.”

Figure 8. Potential Pathways of Current Spread of H5N1 in the United States

Source: CRS, adapted from Thomas P. Peacock et al., “The Global H5N1 Influenza Panzootic in Mammals,” *Nature*, vol. 637, no. 8045 (January 2025), pp. 304-313 (figure on p. 308).

According to APHIS, there were 1,074 confirmed cases of HPAI in cattle in 17 states from March 2024 to May 2025.⁸⁵ Of this total, there were 766 reported cases in California (**Figure 9**).⁸⁶ For more information on cattle and avian influenza, see CRS In Focus IF12837, *H5N1 HPAI Continues to Spread in Dairy Herds*, by Joel L. Greene and Lia Biondo.

⁸⁵ APHIS, “Detections of Highly Pathogenic Avian Influenza in Livestock,” April 8, 2025, <https://www.aphis.usda.gov/livestock-poultry-disease/avian/avian-influenza/hpai-detections/hpai-confirmed-cases-livestock> (hereinafter APHIS, “Detections of Highly Pathogenic Avian Influenza in Livestock”).

⁸⁶ APHIS, “Detections of Highly Pathogenic Avian Influenza in Livestock.”

dairy herds, and humans to creating policies for addressing H5N1 in the United States. **Table 3** provides a summary of selected federal agency activities.

Table 3. Selected Federal Agencies and Their Activities to Address H5N1

Department and Agency	Description of Activities
U.S. Department of Agriculture (USDA)	On February 26, 2025, the USDA announced a “Five-Pronged Approach to Address Avian Flu.” This strategy addresses the impact of avian influenza on the poultry industry in the United States (see the text box “USDA Five-Pronged Approach to Address Avian Flu” below).
Animal and Plant Health Inspection Service (APHIS)	APHIS is addressing H5N1 by monitoring and preventing the spread of H5N1 in poultry and other animals, including dairy cows. It is conducting research on the virus and developing vaccines for commercial poultry and livestock. ^a
U.S. Department of Health and Human Services (HHS)	HHS agencies have multiple initiatives and funding programs related to H5N1. ^b
Centers for Disease Control and Prevention (CDC)	<p>The CDC conducts surveillance of public health, monitors human cases of H5N1, and provides guidance to state health departments on how to investigate suspected cases.^c The CDC aims to understand the transmission pathways of the virus and develop strategies for prevention and treatment. The CDC reports monitoring data through its flu monitoring system. The CDC also receives reports from public health laboratories and performs tests in wastewater for the prevalence of H5N1.</p> <p>The CDC has a public health strategy for addressing H5N1 in humans. The strategy has several objectives, including</p> <ul style="list-style-type: none"> • preventing infection and illness in people exposed to H5N1; • understanding human infection and illness with H5N1, including clinical, virologic, and epidemiologic characteristics; and • preparing for and mitigating the possibility of an H5N1 pandemic in humans.
National Institutes of Health (NIH)	<p>NIH conducts and funds research on several aspects of H5N1, including</p> <ul style="list-style-type: none"> • increasing the understanding of the biology of H5N1 viruses and factors that affect their transmission and efficacy, • developing and evaluating prevention strategies (e.g., vaccine development), • advancing treatments, and • creating and supporting strategies to detect H5N1.
Food and Drug Administration (FDA)	Through the National Institute of Allergy and Infectious Diseases, a research agenda was created in December 2024 to address H5N1 with these four objectives. The agenda contains specific sub-objectives, such as evaluating the science behind the outbreak of H5N1 in dairy cows and the possibility for human-to-human transmission of H5N1. ^d
U.S. Department of the Interior (DOI)	With respect to avian influenza, FDA is responsible for the safety of milk, dairy products, and animal feed supply. FDA tests these products for contamination from H5N1 and their safety for human and animal consumption. FDA also provides guidance to industry on measures to prevent the spread of H5N1 through their products.
	DOI has several initiatives that aim to monitor and study wildlife that might have contracted H5N1 on its trust lands.

Department and Agency	Description of Activities
U.S. Fish and Wildlife Service (FWS)	FWS is aiding in the surveillance of migratory birds that might have contracted H5N1 through efforts organized by the Interagency Steering Committee for Avian Influenza Surveillance in Wild Migratory Birds. FWS also monitors wild birds and aims to ensure biosecurity and safety on its trust lands, and assists in the collection of wild bird samples for testing. ^e
U.S. Geological Survey (USGS)	USGS conducts research into the ecology of avian influenza virus and surveillance for avian influenza viruses in wildlife. Specifically, the National Wildlife Health Center conducts research on the processes and environmental factors that affect the spread, distribution, and transmission of avian influenza in wild birds and poultry. ^f

Source: Compiled by CRS from sources cited below.

Notes: The information in this table summarizes selected efforts by federal agencies and should not be considered comprehensive.

- For more information on the USDA response to H5N1, see CRS Report R48518, *The Highly Pathogenic Avian Influenza (HPAI) Outbreak in Poultry, 2022-Present*, by Lia Biondo.
- CRS In Focus IF12895, *H5N1 Avian Influenza: The Human Health Response*, by Kavya Sekar, Amanda K. Sarata, and Hassan Z. Sheikh.
- For more information on the CDC, see CRS In Focus IF12241, *The Centers for Disease Control and Prevention (CDC)*, by Kavya Sekar, and CRS In Focus IF12895, *H5N1 Avian Influenza: The Human Health Response*, by Kavya Sekar, Amanda K. Sarata, and Hassan Z. Sheikh.
- National Institute of Allergy and Infectious Diseases (NIAID), *NIAID Research Agenda for 2024 H5N1 Influenza*, May 23, 2024, <https://www.niaid.nih.gov/sites/default/files/niaid-h5n1-research-agenda.pdf>.
- U.S. Fish & Wildlife Service, “Avian Influenza,” <https://www.fws.gov/avian-influenza>.
- National Wildlife Health Center, “Avian Influenza Surveillance,” U.S. Geological Survey, February 10, 2025, <https://www.usgs.gov/centers/nwhc/science/avian-influenza-surveillance>.

USDA Five-Pronged Approach to Address Avian Flu

On February 26, 2025, the USDA announced a “Five-Pronged Approach to Address Avian Flu.” This strategy addresses the impact of avian influenza on the poultry industry in the United States. The approach includes

- investing up to \$500 million in biosecurity measures for U.S. poultry producers, including expanding Wildlife Biosecurity Assessments to producers to reduce transmission of H5N1 from birds to poultry;
- increasing financial aid up to \$400 million for farmers to repopulate poultry flocks;
- reducing regulatory burdens on the chicken and egg industry to stimulate innovation and reduce prices, including expanding the commercial supply for eggs, limiting culling during avian influenza outbreaks, and educating stakeholders on geographical price differences among eggs;
- exploring pathways toward vaccines, therapeutics, and other strategies for protecting egg-laying poultry; and
- considering import and export options for eggs to reduce costs for consumers and evaluating international best practices for safe egg production.

In an update to this strategy, the USDA noted that it has expanded biosecurity assessments, increased the indemnity rate for layer hens, evaluated solutions for disease management, invested \$100 million in avian flu research and vaccine development, and explored import/export adjustments to stabilize supply.

Sources: U.S. Department of Agriculture, “USDA Invests Up to \$1 Billion to Combat Avian Flu and Reduce Egg Prices,” press release, February 26, 2025, <https://www.usda.gov/about-usda/news/press-releases/2025/02/26/usda-invests-1-billion-combat-avian-flu-and-reduce-egg-prices>; and U.S. Department of Agriculture, “USDA Update on Progress of Five-Pronged Strategy to Combat Avian Flu and Lower Egg Prices,” press release, March 20, 2025, <https://www.usda.gov/about-usda/news/press-releases/2025/03/20/usda-update-progress-five-pronged-strategy-combat-avian-flu-and-lower-egg-prices>. For more information on the USDA response to H5N1, see CRS Report R48518, *The Highly Pathogenic Avian Influenza (HPAI) Outbreak in Poultry, 2022-Present*, by Lia Biondo.

There are also some interagency efforts that address specific aspects of avian influenza. For example, the Interagency Steering Committee for Surveillance for Highly Pathogenic Avian Influenza coordinates federal efforts for the surveillance of wild birds to detect avian influenza viruses in the United States. The committee consists of representatives from the USDA, U.S. Fish and Wildlife Service (FWS), U.S. Geological Survey (USGS), National Flyway Council, and Association of Fish and Wildlife Agencies.⁸⁸ In addition, the CDC, the USDA, and DOI released a framework called “One Health” in January 2025 to help individuals navigate health threats shared between people and animals. The approach acknowledges the interdependence of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) for addressing disease and aims to coordinate multiple sectors, disciplines, and communities to address health and ecosystem threats.⁸⁹ This effort also resulted in the creation of the United States One Health Coordination Unit. This federal entity is a platform for the CDC to work with the USDA, DOI, and other departments to exchange information and coordinate all One Health activities, including enhancing health-sustaining resources, emergency preparedness, and the prevention, detection, and response to zoonotic diseases.⁹⁰

In the context of H5N1, a One Health approach could include surveillance and testing programs of wild birds and mammals that involve wildlife biologists, veterinarians, and public health officials or joint investigations into human cases of avian influenza that include tracing the source of the infection back to wildlife.

Considerations for Congress

Issues that Congress might consider when addressing avian influenza in the United States include the effectiveness and coverage of existing biosurveillance practices and policies; the effectiveness of coordination among federal agencies and nonfederal entities; the status of international collaboration; research and data required to fill existing knowledge gaps; activities related to monitoring and planning for potential spillover of avian influenza to humans; and policies that lead to suppressing or eliminating avian influenza in the United States.

Biosurveillance for H5N1

Conducting biosurveillance to monitor and record wildlife, poultry, and livestock infections of avian influenza is a priority for stakeholders.⁹¹ Scientists assert that effective responses to avian influenza outbreaks rely on the rapid detection and identification of emerging strains of H5N1.⁹² This requires extensive sampling of animal species that might be carrying H5N1 strains and could be considered intermediates host for human infections. Further, scientists note that sampling

⁸⁸ U.S. Geological Survey, “What Is Avian Influenza?” <https://geonarrative.usgs.gov/avianinfluenza/>.

⁸⁹ CDC et al., *National One Health Framework to Address Zoonotic Diseases and Advance Public Health Preparedness in the United States*, 2025, https://www.cdc.gov/one-health/media/pdfs/2025/01/354391-A-NOHF-ZOONOSES-508_FINAL.pdf.

⁹⁰ CDC, “Federal One Health Coordination,” February 14, 2025, <https://www.cdc.gov/one-health/php/about/federal-one-health-coordination-1.html>.

⁹¹ Sergio A. Lambertucci et al., “The Threat of Avian Influenza H5N1 Looms over Global Biodiversity,” *Nature Reviews Biodiversity*, vol. 1 (2025), pp. 7-9 (hereinafter Lambertucci et al., “The Threat of Avian Influenza H5N1 Looms over Global Biodiversity”).

⁹² For example, see European Food Safety Authority (EFSA) Panel on Animal Health and Animal Welfare (AHAW) et al., “Preparedness, Prevention and Control Related to Zoonotic Avian Influenza,” *European Food Safety Authority Journal*, vol. 23, no. 1 (2025), Article e9191 (hereinafter EFSA AHAW et al., “Preparedness, Prevention and Control Related to Zoonotic Avian Influenza”).

strains from human infections may also identify compatible H5N1 viruses and help contain their spread.⁹³ Some scientists assert that monitoring should be increased for marine birds and mammals, as well as terrestrial scavengers.⁹⁴ These are species most susceptible to infection and potential indicators of where the virus might be spreading. Further, they contend that monitoring should be increased along migratory flyways, especially in regions that are unaffected by the virus.⁹⁵ This could allow scientists to map the risk of H5N1 infection, prioritize surveillance efforts, and minimize the effects of the virus if it spreads to new regions.⁹⁶

Other stakeholders might argue that existing surveillance actions by the federal government are sufficient to track the spread of avian influenza, citing APHIS, which stated that “the United States has the strongest avian influenza surveillance program in the world.”⁹⁷ Most cases of H5N1 are found in domesticated birds and livestock as opposed to wild birds, leading some stakeholders to argue that increased monitoring of wildlife may not be as effective as biosurveillance on livestock. In response, some scientists note that certain studies found that preventive and control measures for infected wild birds (e.g., vaccines) could lower the incidence of disease outbreaks in poultry.⁹⁸

Congress might consider whether current biosurveillance programs, particularly of wild birds, are sufficient to identify potential exposure pathways early enough to prevent transmission and continued spread to other animals, such as mammals, commercial poultry, and livestock. A related congressional oversight topic could be the effects of staff reductions at the USDA and other federal agencies on biosurveillance of H5N1 in livestock, wildlife, and humans. Options to increase biosurveillance, if desired, could include providing more resources for surveillance efforts through APHIS and FWS, and establishing early warning or identification networks across the country to provide real-time data to help identify infected animals and prevent future infections. Data collected during surveillance programs could also be used for broader research efforts. Legislative options could include expanding surveillance systems to monitor the prevalence of zoonotic diseases in humans. For example, H.R. 766 in the 119th Congress would authorize the National Wastewater Surveillance System to monitor a broad variety of pathogens, including avian influenza, to detect the prevalence of zoonotic diseases.⁹⁹ Section 6003(a)(3) of P.L. 117-2, the American Rescue Plan Act of 2021, authorized the Zoonotic Disease Initiative, a grant program focused on wildlife disease prevention and preparedness.¹⁰⁰

The following are other potential topics for congressional oversight:

- The role of state and local governments in surveillance and response to H5N1, how this role does or does not support the federal response to H5N1, and what level of federal support these entities need to implement and report biosurveillance.

⁹³ Harrington et al., “The Evolution and Future of Influenza Pandemic Preparedness.”

⁹⁴ Lambertucci et al., “The Threat of Avian Influenza H5N1 Looms over Global Biodiversity.”

⁹⁵ Lambertucci et al., “The Threat of Avian Influenza H5N1 Looms over Global Biodiversity.”

⁹⁶ Lambertucci et al., “The Threat of Avian Influenza H5N1 Looms over Global Biodiversity.”

⁹⁷ APHIS, “H5N1 Influenza,” March 20, 2025, <https://www.aphis.usda.gov/h5n1-hpai#detections-hpai>.

⁹⁸ Masato Hatta et al., “An Influenza mRNA Vaccine Protects Ferrets from Lethal Infection with Highly Pathogenic Avian Influenza A(H5N1) Virus,” *Science Translational Medicine*, vol. 16, no. 778 (2024).

⁹⁹ The National Wastewater Surveillance System was implemented by the CDC in September 2020. The system aimed to coordinate and increase capacity to track the presence of SARS-CoV-2, the virus that causes COVID-19, in wastewater samples collected across the country.

¹⁰⁰ U.S. Fish & Wildlife Service, “American Rescue Plan Act Zoonotic Disease Grant Program,” 2023, <https://www.fws.gov/project/american-rescue-plan-act-zoonotic-disease-grant-program>.

- How individuals with backyard flocks could use information networks to protect and monitor their flocks for avian influenza. This topic could include federal outreach programs such as those administered by the USDA Cooperative Extension System to identify other animal populations raised by smallholders not currently seen as potential vectors for disease.¹⁰¹ Congress might also consider whether state and local programs should be federally supported to conduct such work.

Federal Agency Coordination

In the United States, several federal agencies are addressing various aspects of avian influenza. Coordination among these agencies should be a priority, according to several scientists who support the One Health approach to addressing zoonotic viruses such as avian influenza.¹⁰² Some Members of Congress contend that coordination among federal agencies to address avian influenza is critical to control its spread and that apparent contradictions in strategies to lower avian influenza among federal agencies might indicate a lack of coordination.¹⁰³ In May 2024, 16 U.S. Senators wrote to the Secretary of Agriculture and expressed support for a collaborative federal response to increase pathogen surveillance and inform farmers, ranchers, and veterinarians of the latest developments and mitigation efforts.¹⁰⁴

Other stakeholders might contend that current coordination among federal agencies to address avian influenza is sufficient. For example, the “Five-Pronged Approach” to control avian influenza recently promulgated by the USDA commits \$1 billion to implementing this approach.¹⁰⁵ This initiative is focused on the poultry industry, however. The One Health approach, in contrast, might include other species and additional federal agencies such as FWS and the CDC.

Current policies and coordination among federal agencies to address H5N1 and other forms of avian influenza could be a subject for congressional oversight. If Congress determined that more or better coordination were required, legislative options could include providing new authorities and/or funding for federal agencies to facilitate and direct coordination, establishing an executive office to address avian influenza, and authorizing a federal task force with decisionmaking authority to lead efforts to combat the current outbreak and any future outbreaks when needed.

¹⁰¹ National Institute of Food and Agriculture, “Cooperative Extension System,” 2025, <https://www.nifa.usda.gov/about-nifa/how-we-work/extension/cooperative-extension-system>.

¹⁰² Jahid and Nolting, “Dynamics of a Panzootic.”

¹⁰³ Letter from Raja Krishnamoorthi, Ranking Member of the Subcommittee on Health Care and Financial Services, et al., to Hon. Robert F. Kennedy Jr., HHS Secretary, April 1, 2025, <https://oversightdemocrats.house.gov/sites/evo-subsites/democrats-oversight.house.gov/files/evo-media-document/2025-04-01-gec-krishnamoorthi-et-al-to-jfkjr-re-bird-flu.pdf>.

¹⁰⁴ For example, see letter from Sen. Amy Klobuchar et al. to Hon. Tom Vilsack, Secretary of Agriculture, May 1, 2024, https://www.klobuchar.senate.gov/public/_cache/files/6/7/676a55eb-4f22-4de6-9f7e-ca4314cce98d/A60BA7F007F2918BB694829DCABF8D5F.24.5.1-letter-to-secretary-vilsack-regarding-avian-flu.pdf.

¹⁰⁵ USDA, “USDA Invests Up to \$1 Billion to Combat Avian Flu and Reduce Egg Prices,” press release, February 26, 2025, <https://www.usda.gov/about-usda/news/press-releases/2025/02/26/usda-invests-1-billion-combat-avian-flu-and-reduce-egg-prices>; and USDA, “USDA Update on Progress of Five-Pronged Strategy to Combat Avian Flu and Lower Egg Prices,” press release, March 20, 2025, <https://www.usda.gov/about-usda/news/press-releases/2025/03/20/usda-update-progress-five-pronged-strategy-combat-avian-flu-and-lower-egg-prices>.

New Authorities for Federal Agencies

If Congress determined that current levels of federal and nonfederal coordination to address H5N1 were insufficient, a range of options could be considered, including the following:

- Directing agencies to enter into cooperative agreements with other federal or nonfederal agencies to address avian influenza.
- Requiring submission of a crosscut budget that would show funding for activities addressing H5N1.¹⁰⁶ A crosscut budget is often used to present budget information from two or more agencies whose activities are targeted at a common policy goal and may allow Congress to examine whether these activities are complementary or duplicative, for example.
- Establishing a program related to H5N1 similar to the Networking and Information Technology Research and Development (NITRD) Program, which coordinates the activities of multiple agencies to tackle multidisciplinary, multi-technology, and multisector research and development needs.¹⁰⁷

Executive Office for Avian Influenza

Another legislative option could be to establish a White House office to coordinate activities to inform future policies and actions to fight avian influenza or assign this function to an existing office. An example could be to utilize the Office of Pandemic Preparedness and Response (OPPR) for such activities.¹⁰⁸ The primary function of the office is to

[p]rovide advice, within the Executive Office of the President, on policy related to preparedness for, and response to, pandemic and other biological threats that may impact national security, and support strategic coordination and communication with respect to relevant activities across the Federal Government.¹⁰⁹

By law, OPPR is tasked with coordinating federal activities in order to “prepare for, and respond to, pandemic and other biological threats” as well as other responsibilities prescribed in P.L. 117-328. OPPR is required to submit a report every two years, in part, on current and emerging pandemic and other biological threats that pose a significant level of risk to national security as well as the roles and responsibilities of the federal government in preparing for, and responding to, such threats to the President; the Senate Committee on Health, Education, Labor and Pensions; and the House Committee on Energy and Commerce. On January 20, 2025, President Trump issued National Security Presidential Memorandum/NSPM-1, “Organization of the National Security Council and Subcommittees,” which named the director of the OPPR Policy as a member on the National Security Council.¹¹⁰

¹⁰⁶ Crosscut budgets can assist in making data from multiple agencies more understandable and could be used to inform congressional oversight committees, participating agencies, and stakeholders. A crosscut budget may be used to track funding for a theme (e.g., addressing avian influenza), list program accomplishments, measure progress toward achieving program goals, or compare similar activities conducted by various agencies. For more information, see CRS Report RL34329, *Crosscut Budgets in Ecosystem Restoration Initiatives: Examples and Issues for Congress*, by Pervaze A. Sheikh and Clinton T. Brass.

¹⁰⁷ Networking and Information Technology Research and Development (NITRD) Program, “About the NITRD Program,” 2025, <https://www.nitrd.gov/about-nitrd/>.

¹⁰⁸ Established under the Consolidated Appropriations Act, 2023 (P.L. 117-328), Title II, Subtitle A, §2104.

¹⁰⁹ Consolidated Appropriations Act, 2023 (P.L. 117-328, §2104(b)).

¹¹⁰ National Security Presidential Memorandum-1, “Organization of the National Security Council and (continued...)”

Congress may consider a similar office focused on addressing avian influenza or an office that has a broader mandate that would identify, coordinate, prepare for, and respond to novel, adapted, or currently circulating zoonotic viruses. Some stakeholders might oppose this approach if they view the office as creating an additional layer of bureaucracy that might delay actions needed to address H5N1 by agencies with specialized expertise and “on-the-ground” presence, such as surveillance and response activities. This concern likely would depend on the structure and authority given to the office.

Federal Task Force

Congress might also consider creating a federal task force to address H5N1. A federal task force could have several duties that support a One Health approach to zoonotic diseases:

- identify opportunities to leverage federal resources with state or local resources and increase coordination among federal and nonfederal stakeholders;
- create a federal plan to contain H5N1 that could include strategies for research, biosurveillance, and containment and prevention protocols;¹¹¹
- provide technical assistance and scientific resources to nonfederal stakeholders to address H5N1;
- organize federal agency activities to reduce overlap and be the point of contact for international collaborative efforts to eliminate H5N1;
- create a crosscut budget to show how federal funding is being spent on H5N1 and the authorities used for implementing activities; and
- solicit and address recommendations from stakeholders on how to improve the federal response to H5N1.

A task force also could provide Congress with a single entity over which it could exercise oversight for H5N1, rather than having to oversee the individual agencies.

Multiagency efforts that focus on coordination, such as a federal task force, may pose some challenges. For example, if consensus from all task force members were to be needed for activities to progress, one task force member could slow or stop efforts. Further, a task force would not have the authority to allocate funding to rapidly support response efforts. Congress could address this potential issue by providing funding for broad objectives, thereby giving the entity more discretion to direct funding to certain projects or activities deemed a high priority. Another option could be to appropriate funding to a single agency and grant that agency transfer authority to send funds to other agencies where activities need to be implemented.¹¹²

International Collaboration to Address Avian Influenza

Congress might consider the role of the United States in international organizations and programs associated with emerging disease identification and monitoring. H5N1 is spreading throughout the world, primarily through migratory birds and transport of infected animals. There are several

Subcommittees,” January 20, 2025, <https://www.whitehouse.gov/presidential-actions/2025/01/organization-of-the-national-security-council-and-subcommittees/>.

¹¹¹ For example, under the Great Lakes Restoration Initiative, there is a federal task force that creates an action plan every four years to guide restoration and coordinates work among federal agencies to implement the plan. See 33 U.S.C. §1268(c)(7).

¹¹² For an example related to restoration in the Great Lakes, see 33 U.S.C. §1268(c)(7)(D)(ii).

international efforts to address avian influenza, focusing on monitoring, gathering, and reporting data on infections, research, and strategies for addressing the disease (Table 4).

Table 4. Selected International Organizations and Their Efforts to Address H5N1

Organization	Description
World Health Organization (WHO)	The WHO coordinates efforts to respond to H5N1 with other countries and international organizations. WHO efforts include surveillance and reporting of human cases of H5N1, providing technical assistance to countries, and preparing guidelines for prevention and control. It also advises on research to address the virus. In January 2025, President Trump issued Executive Order 14155, which stated that the United States intends to withdraw from the WHO. ^a
World Organisation for Animal Health (WOAH)	The WOAH focuses on animal health and provides guidance to member countries on the diagnosis, control, and prevention of H5N1 in animals. It also provides technical assistance and training and coordinates scientific studies. The United States is a member country.
Food and Agriculture Organization (FAO)	FAO addresses the impact of H5N1 on animal health and food security. FAO assists member countries to strengthen biosecurity measures against H5N1 and develop and implement national preparedness plans for H5N1. FAO also studies and reports the potential economic and food security impacts of H5N1 outbreaks. The United States is a member country.
Pan American Health Organization (PAHO)	The PAHO collaborates with countries in the Americas to increase and improve surveillance of H5N1; provide technical support to detect, treat, and investigate human infections of H5N1; and improve the capacity of labs to diagnose and monitor genetic changes of H5N1. The United States is a member country.

Sources: WHO, “What Research Is Important to Prepare and Respond to H5N1 Influenza Outbreaks,” press release, March 19, 2025; WOAH, “Avian Influenza,” press release, 2025; FAO, “The Spread of H5N1 Highly Pathogenic Avian Influenza Calls for Stepped Up Action, FAO Says,” press release, March 17, 2025; PAHO, *Avian Influenza*, 2025.

- a. Executive Order 14155 of January 20, 2025, “Withdrawing the United States from the World Health Organization,” 90 *Federal Register* 8361, January 29, 2025.

Some scientists contend that international collaboration is needed to improve biosurveillance and sharing of information on the extent and spread of avian influenza.¹¹³ Further, they assert that international collaboration is needed to share data and insights on the spread of H5N1, given the global nature of migratory bird patterns, an indicator of viral spread.¹¹⁴ They note that some organizations are working to improve information sharing and surveillance, but they lack financial resources, infrastructure, and ability to test and monitor organisms in developing areas. One scientist emphasizes that the possibility of unseen H5N1 transmission spreading among farmworkers or mammal populations in developing countries is higher than for developed countries. This may occur because of fear of a government presence, which could be detrimental to understanding the transmission of the disease, and lack of sufficient resources for testing.¹¹⁵

Other stakeholders argue that participation in certain international organizations may not be advantageous because of the ineffectiveness of the organization and potential politicization of the

¹¹³ Food and Agriculture Organization of the United Nations, “The Spread of H5N1 Highly Pathogenic Avian Influenza Calls for Stepped Up Action, FAO Says,” press release, March 17, 2025; and Lambertucci et al., “The Threat of Avian Influenza H5N1 Looms over Global Biodiversity.”

¹¹⁴ Mena et al., “The Impact of Highly Pathogenic Avian Influenza H5N1 in the United States.”

¹¹⁵ Peacock et al., “The Global H5N1 Influenza Panzootic in Mammals.”

organization’s actions. For example, the United States has stated that it intends to withdraw from the World Health Organization (WHO) because of its handling of the COVID-19 pandemic and the alleged politicization of its actions.¹¹⁶

Congress might consider whether federal participation in international efforts to address and monitor H5N1 is necessary to positively impact detection and tracking. Some potential advantages of participating in international efforts related to H5N1 might include receiving monitoring data of migratory birds carrying the virus from other countries into the United States, being aware of new strains of H5N1 in real time from around the globe, and participating in efforts to lower and control the spread of the disease at a global level. Some disadvantages might include the cost of paying dues for participation and the potential failure to control the virus because of ineffectual leadership and inadequate efforts. Congress might also consider the implications of the Administration’s intent to withdraw from the WHO, pursuant to Executive Order 14155, “Withdrawing the United States from the World Health Organization,” and its potential impacts on U.S. pandemic preparedness for zoonotic diseases such as avian influenza.¹¹⁷

Research and Data Collection

Several scientists contend that conducting research and collecting data on avian influenza viruses is a key step toward controlling them in wildlife, commercially raised animals, and humans.¹¹⁸ Some scientists assert that research into how H5N1 evolves, spreads, and can be controlled is essential to address the effects of the virus. Selected research tasks recommended by scientists include the following:

- Studying the biology and evolution of H5N1 and factors that influence their ability to transmit and cause disease (e.g., how the H5N1 adapts and evolves), including studying mutations that might make it easier for the virus to infect humans or be spread through human-to-human transmission.¹¹⁹
- Gaining a better understanding of infections and pathogenesis in cattle, small ruminants, swine, and poultry.¹²⁰
- Developing a better understanding of transmission among wildlife species that live around humans.¹²¹
- Developing prevention and mitigation strategies (e.g., vaccines) to counter H5N1 and advancing treatments to address H5N1 (e.g., vaccines, antivirals, diagnostic

¹¹⁶ Executive Order 14155 of January 20, 2025, “Withdrawing the United States from the World Health Organization,” 90 *Federal Register* 8361, January 29, 2025.

¹¹⁷ Executive Order 14155 of January 20, 2025, “Withdrawing the United States from the World Health Organization,” 90 *Federal Register* 8361, January 29, 2025.

¹¹⁸ For example, see Galli et al., “H5N1 Influenza A Virus: Lessons from Past Outbreaks.”

¹¹⁹ National Institute of Allergy and Infectious Diseases (NIAID), *NIAID Research Agenda for 2024 H5N1 Influenza*, May 23, 2024, <https://www.niaid.nih.gov/sites/default/files/niaid-h5n1-research-agenda.pdf>.

¹²⁰ HHS, “U.S. Highly Pathogenic Avian Influenza A(H5N1) Research Priorities: October 2024,” October 2024, <https://www.hhs.gov/programs/public-health-safety/us-highly-pathogenic-avian-influenza-a-h5n1-research-priorities-october-2024/index.html> (hereinafter HHS, “U.S. Highly Pathogenic Avian Influenza A(H5N1) Research Priorities”).

¹²¹ National Academies of Sciences, Engineering, and Medicine, *Potential Research Priorities to Inform U.S. Readiness and Response to Avian Influenza A (H5N1)*, *Proceedings of a Workshop—in Brief*, 2024, <https://nap.nationalacademies.org/read/28581/chapter/1#14> (hereinafter National Academies of Sciences, Engineering, and Medicine, *Potential Research Priorities for Avian Influenza A*).

tests).¹²² Developing strategies to detect H5N1 and prevent transmission, especially in developing countries where resources for this work are minimal.

- Estimating the potential for H5N1 to create a human pandemic.¹²³

Certain research that investigates how viruses evolve to become more transmissible or virulent has raised biosafety and biosecurity concerns.¹²⁴ These discussions began, in part, in 2011-2012 around a set of studies funded by the National Institutes of Health (NIH) on respiratory transmission of H5N1.¹²⁵ These particular types of studies became known as “gain-of-function” (GOF) research and led to various federal oversight policies to address biosafety and biosecurity of such research, including a temporary moratorium on certain GOF research in 2014.¹²⁶ Since then, policymakers, scientists, and the public have debated the magnitude of potential risks and benefits of GOF and other life sciences research involving pathogens, how to weigh those risks and benefits appropriately, and to what extent community engagement and transparent decisionmaking should have a role in determining those risk and benefits. These discussions have led to various federal policies being developed and updated over the years.¹²⁷ These include, most recently, the Trump Administration’s Executive Order 14292, “Improving the Safety and Security of Biological Research,” released on May 5, 2025, which includes the Administration’s intention to revise or replace the *United States Government Policy for Oversight of Dual Use Research of Concern and Pathogens with Enhanced Pandemic Potential*, which was scheduled to take effect on May 6, 2025.¹²⁸

In addition to funding research, some stakeholders also suggest funding the creation of a system to characterize and catalog emerging viruses and their evolution.¹²⁹ Such a system would compile genetic sequences of viruses collected from all over the world and use bioinformatics¹³⁰ tools to evaluate the zoonotic potential of new mutations or combinations of new mutations of avian influenza viruses. A system of this type could address scientists’ concerns about the limitations on assessing emerging mutations in H5N1.¹³¹ Further, some scientists and policy analysts note that

¹²² HHS, *U.S. Highly Pathogenic Avian Influenza A(H5N1) Research Priorities*.

¹²³ National Academies of Sciences, Engineering, and Medicine, *Potential Research Priorities for Avian Influenza A*.

¹²⁴ CRS Report R47114, *Oversight of Gain-of-Function Research with Pathogens: Issues for Congress*, by Todd Kuiken.

¹²⁵ Kelsey Lane Warmbrod et al., “COVID-19 and the Gain of Function Debates: Improving Biosafety Measures Requires a More Precise Definition of Which Experiments Would Raise Safety Concerns,” *EMBO Reports*, vol. 22, no. 10 (2021).

¹²⁶ Office of Science and Technology Policy, *U.S. Government Gain-of-Function Deliberative Process and Research Funding Pause on Selected Gain-of-Function Research Involving Influenza, MERS, and SARS Viruses*, October 17, 2014.

¹²⁷ CRS Report R48155, *Oversight of Laboratory Biosafety and Biosecurity: Current Policies and Options for Congress*, by Todd Kuiken.

¹²⁸ Office of Science and Technology Policy, *United States Government Policy for Oversight of Dual Use Research of Concern and Pathogens with Enhanced Pandemic Potential*, May 2024; and Executive Order 14292 of May 5, 2025, “Improving the Safety and Security of Biological Research,” 90 *Federal Register* 19611, May 8, 2025, <https://www.federalregister.gov/documents/2025/05/08/2025-08266/improving-the-safety-and-security-of-biological-research>.

¹²⁹ EFSA AHAW et al., “Preparedness, Prevention and Control Related to Zoonotic Avian Influenza.”

¹³⁰ Bioinformatics “is a scientific subdiscipline that involves using computer technology to collect, store, analyze and disseminate biological data and information, such as DNA and amino acid sequences or annotations about those sequences.” See National Institutes of Health, “Bioinformatics,” June 2, 2025, <https://www.genome.gov/genetics-glossary/Bioinformatics>.

¹³¹ Ison and Marrazzo, “The Emerging Threat of H5N1 to Human Health.”

supporting the collection of data in developing countries is needed to understand the evolution of viruses and fill in gaps in our knowledge of how they change.¹³²

Congress might consider whether funding is needed for domestic and international efforts to collect, study, and report viral data. Such funds could support existing research programs and strategies but focus them on H5N1 through agencies such as NIH, APHIS, and USGS or support the creation of new research initiatives focused on H5N1. Another option would be to elevate the importance of studying H5N1 by directing agencies to give research proposals for its study a higher priority than they currently receive. For example, H.R. 2868 in the 119th Congress would include the study of HPAI as a high-priority research and extension area under Title 7, Section 5925(d), of the *U.S. Code* for the Secretary of Agriculture.

While some Members of Congress may support this approach domestically and internationally, others might assert that international efforts to collect data and report findings should be the responsibility of the individual countries where an outbreak is occurring or that current research efforts into zoonotic viruses such as avian influenza are sufficient to control and eliminate the virus.

Spillover to Humans and Transmission Among Humans¹³³

Currently, the number of human cases of H5N1 in the United States is low (70), and it has primarily been spread by contact with infected animals (see **Table 2**). As discussed previously (see the text box “Nomenclature of Avian Influenza Virus”), hemagglutinin provides a virus with the ability to attach to a specific receptor in a host’s cell. The hemagglutinin of avian influenza recognizes avian-type receptors. While humans can become infected with an avian influenza, typically via contact with an infected animal, without changes in the hemagglutinin of that particular virus, human-to-human transmission does not currently occur. Reassortment can occur when a host is coinfecting with multiple influenza viruses, which may accelerate viral evolution, resulting in a virus that is more infectious to humans. Reassortment is believed to have occurred in the influenza pandemics in 1918, 1957, 1968, and 2009.¹³⁴

In a recent human case of H5N1 in Louisiana, where it is believed that the patient contracted H5N1 from contact with poultry on the patient’s property, the CDC analyzed samples from the patient’s lungs for evidence of changes in the hemagglutinin compared with samples collected in wild birds and poultry in Louisiana. While changes were identified that suggest that the virus may have enhanced ability to infect humans, it is believed that these changes occurred within the patient after infection rather than being transmitted at the time of infection.¹³⁵ According to the CDC,

Of note, virus sequences from poultry sampled on the patient’s property were nearly identical to the virus sequences from the patient but did not have the mixed nucleotides identified in the patient’s clinical sample, strongly suggesting that the changes emerged during infection as virus replicated in the patient. Although concerning, and a reminder that A(H5N1) viruses can develop changes during the clinical course of a human infection,

¹³² For example, see CRS Report RL33219, *U.S. and International Responses to the Global Spread of Avian Flu: Issues for Congress*, by Tiaji Salaam-Blyther.

¹³³ For additional information on the human health response to H5N1, see CRS In Focus IF12895, *H5N1 Avian Influenza: The Human Health Response*, by Kavya Sekar, Amanda K. Sarata, and Hassan Z. Sheikh.

¹³⁴ Ting-Hui Lin et al., “A Single Mutation in Bovine Influenza H5N1 Hemagglutinin Switches Specificity to Human Receptors,” *Science*, vol. 386, no. 6726 (December 2024), pp. 1128-1134.

¹³⁵ Johns Hopkins Bloomberg School of Public Health, “Bird Flu Is Raising Red Flags Among Health Officials,” January 14, 2025, <https://publichealth.jhu.edu/2025/bird-flu-is-raising-red-flags-among-health-officials>.

these changes would be more concerning if found in animal hosts or in early stages of infection (e.g., within a few days of symptom onset) when these changes might be more likely to facilitate spread to close contacts. Notably, in this case, no transmission from the patient in Louisiana to other persons has been identified.¹³⁶

Understanding how and when this adaptation, or reassortment, occurs can aid in prevention and preparedness efforts. Scientists have conducted experiments with viruses to better understand how they evolve. Certain types of these experiments have raised biosafety and biosecurity concerns. How to evaluate the risks and benefits of such experiments, whether to ban such research, or whether alternative methods could be investigated has been debated.¹³⁷

Congress may consider the implications if H5N1, or another avian influenza virus, evolves and becomes transmissible between humans. What federal investments or policies may be needed to identify, abate, and address such a change in the virus's ability to infect humans? Further, Congress might debate whether the United States has in place sufficient programs, policies, and resources to address an outbreak of H5N1 in humans in places where human-to-human transmission is prevalent.

Eliminating or Suppressing Avian Influenza

Sustained H5N1 wild-bird epizootics repeatedly spill over to and back from domestic bird populations, increasing zoonotic and pandemic risks for wildlife and humans. Vaccinations and culling of infected birds and wildlife are the two main approaches for controlling influenza viruses.¹³⁸ Culling is commonly used to curb avian influenza in poultry, and millions of poultry have been culled to stamp out avian influenza outbreaks in the past. For example, in the 2014-2015 outbreak in the United States, over 50 million birds were depopulated (this figure includes birds that were culled and those that succumbed to the disease) on 232 infected premises.¹³⁹ However, in the current outbreak, continuous culling might be unsustainable because H5N1 is persistent in wild birds throughout the country.¹⁴⁰ Scientists propose several strategies that the United States and other countries could implement to limit the spread and impact of H5N1. Some of these strategies include the following:

- heightening surveillance and detection of infected organisms, especially wild birds along migratory flyways and infected mammals;
- improving biosecurity measures to protect livestock and poultry from infected wild birds and mammals, such as restricting farm access, lowering exposure of livestock and poultry to wild birds, ensuring that no milk enters the market from sick cows, and requiring that handlers use personal protective equipment (PPE);¹⁴¹

¹³⁶ CDC, "Genetic Sequences of Highly Pathogenic Avian Influenza A(H5N1) Viruses Identified in a Person in Louisiana," December 26, 2024, <https://www.cdc.gov/bird-flu/spotlights/h5n1-response-12232024.html>.

¹³⁷ CRS Report R47114, *Oversight of Gain-of-Function Research with Pathogens: Issues for Congress*, by Todd Kuiken.

¹³⁸ Jahid and Nolting, "Dynamics of a Panzootic."

¹³⁹ USDA, *Final Report for the 2014–2015 Outbreak of Highly Pathogenic Avian Influenza (HPAI) in the United States*, August 11, 2016, <https://www.aphis.usda.gov/media/document/2086/file>.

¹⁴⁰ Xie et al., "The Episodic Resurgence of Highly Pathogenic Avian Influenza H5 Virus."

¹⁴¹ Tomas Perez-Acle et al., "Are We Cultivating the Perfect Storm for a Human Avian Influenza Pandemic?," *Biological Research*, vol. 57 (2024), Article 96 (hereinafter Perez-Acle et al., "Are We Cultivating the Perfect Storm for a Human Avian Influenza Pandemic").

- limiting exposure of wildlife associated with humans (e.g., livestock, poultry, and pets) to H5N1;
- conducting rapid response and containment of infected animals, including efforts to cull infected poultry and possibly other species;
- creating and testing mitigation and treatment methods, such as vaccines and therapeutic remedies; and
- researching mutations and genetic reassortment that might give scientists insight into the possibilities of mammal-to-mammal transmission and mammal-to-human transmission.

Congress might consider how the United States will control and eliminate avian influenza and whether current efforts to achieve this objective are sufficient. As the number of wildlife species and domesticated pets that test positive for H5N1 increases, so too does the potential for spread into humans and further potential for the virus to mutate into a more transmissible or virulent form. Congress might consider how federal programs or other policies might reduce these contact points between humans and infected species (beyond poultry and livestock) to help reduce the potential for spread and mutation between humans.

Stakeholders have offered options for Congress to consider to fortify the U.S. response toward eliminating H5N1 and other strains of avian influenza before it becomes a pandemic for humans. These include the following, in addition to options described above:

- rapid monitoring, testing, and research to get real-time data analysis on the spread and evolution of the virus¹⁴² and efficient transmission of data to domestic and international databases;¹⁴³
- funding to support research, implementation of biosecurity measures,¹⁴⁴ and on-farm and field testing,¹⁴⁵ such as protecting farm workers through PPE and isolating livestock and poultry from wild birds that might be carrying H5N1;¹⁴⁶ and
- conducting outreach to the public on the risks of handling wild birds, consuming raw milk, and raising backyard chicken flocks.

¹⁴² Dhillon et al., “Steps to Prevent and Respond to an H5N1 Epidemic in the USA.”

¹⁴³ Perez-Acle et al., “Are We Cultivating the Perfect Storm for a Human Avian Influenza Pandemic?”

¹⁴⁴ Dhillon et al., “Steps to Prevent and Respond to an H5N1 Epidemic in the USA.”

¹⁴⁵ Perez-Acle et al., “Are We Cultivating the Perfect Storm for a Human Avian Influenza Pandemic?”

¹⁴⁶ Noah Kojima et al., “Building Global Preparedness for Avian Influenza,” *The Lancet*, vol. 403, no. 10443 (June 8, 2024), pp. 2461-2465.

Appendix A. Chronology of Significant Global Events Related to Avian Influenza and Influenza A

Table A-1. Chronology of Significant Global Events Related to Avian Influenza and Influenza A

Information Compiled from Centers for Disease Control and Prevention (CDC) Websites Unless Otherwise Noted

Date	Event
1878	In 1878, the term “fowl plague” was used to describe the poultry disease observed in Italy and other European countries. “Fowl plague” was then differentiated from fowl cholera in 1880. Though these are the oldest bird flu references date, it is believed that prior to these references the disease had already been in existence for a long time, perhaps for hundreds of years.
1894	There are reports of subsequent outbreaks in poultry of HPAI in 1894 and 1901 in Italy, which spread with the poultry stock of an itinerant poultry merchant to eastern Austria and Germany and later to Belgium and France.
1901	The cause (etiology) of HPAI in domestic poultry was identified as a virus, though influenza viruses were not isolated until the 1930s.
1918	[The Spanish flu was caused by H1N1 influenza virus and is estimated to have killed approximately 50 million people.]
1924	The first outbreak of HPAI in poultry in the United States occurred during the fall and winter of 1924–1925. The disease first appeared to have caused severe losses in live bird markets in New York City.
1950s	By the mid-1900s, HPAI had been [documented] in poultry in most of Europe, Russia, North America, South America, Middle East, Africa and Asia.
1957	[A pandemic commonly referred to as the “Asian flu” emerged. This was a H2N2 virus that was a combination of reassortant viruses with avian origin. The virus emerged in East Asia and spread around the world, causing an estimated 1.1 million deaths worldwide and 116,000 deaths in the United States.]
1959	The first HPAI A(H5N1) virus was isolated following an outbreak in chickens in Scotland.
1961	An outbreak in wild birds (common tern) in South Africa suggests wild birds as a possible reservoir for avian influenza A viruses.
1967	Researchers proposed a relationship between human and avian influenza A viruses after a study showed a relationship between the 1957 human pandemic influenza virus and an influenza A virus isolated from a turkey.
1968	The 1968 pandemic was caused by an influenza A (H3N2) virus [composed] of two genes from an avian influenza A virus, including a new H3 hemagglutinin, but also contained the N2 neuraminidase from the 1957 H2N2 virus. In addition, the 1968 H3N2 pandemic [resulted from a reassortment] between the seasonal human influenza A(H2N2) virus and a low pathogenic avian influenza A virus. It was first detected in Hong Kong in July, and noted in the United States by September 1968. The estimated number of deaths was 1 million worldwide and about 100,000 in the United States. Though indications on the potential role of bird flu on the origin of human pandemics had been present for nearly a decade, it wasn't until 1968 that avian influenza A virus infections in wild birds in the United States, Australia, and Russia were confirmed using blood tests.

1983	In April 1983, an LPAI H5N2 virus circulated in chickens in the United States. Later that year, this virus had evolved into a highly pathogenic strain causing high mortality in affected flocks.
1996	HPAI H5N1 virus first identified in farmed waterfowl (geese) in Southern China in 1996.
1997	HPAI H5N1 virus outbreaks were detected in poultry in Hong Kong, and zoonotic (animal to human) transmission led to 18 human infections with six deaths. These were the recognized first H5N1 human infections with fatal outcomes.
2002	[HPAI was first detected in South America, in commercial poultry in Chile.]
2004	An outbreak of bird flu due to an H7N3 virus occurred among poultry in Canada. Within days, the virus causing this outbreak had changed from low to high pathogenicity. [During the same year], the United States experienced a poultry outbreak of a North American lineage HPAI H5N2 virus that was restricted to one farm.
2003-2005	Wild birds spread HPAI H5N1 virus to poultry in Africa, the Middle East[,] and Europe, and the HPAI H5N1 virus's HA surface protein diversified into numerous clades (related groups), and viruses reassorted into multiple genetic lineages (genotypes) that were detected around the world.
2009	A novel influenza A H1N1 virus emerged in humans. It was detected first in the United States and spread quickly across the United States and the world. This new H1N1 virus contained a unique combination of swine, avian[,] and human influenza genes not previously identified in animals or people. This virus was designated as influenza A (H1N1)pdm09 virus.
2010s	Multiple HPAI H5 viruses were identified with new NA subtypes (e.g., H5N2, H5N3, H5N6, H5N8 and H5N9) following reassortment (gene swapping) with wild bird lineages among wild birds and/or domestic poultry.
2014	HPAI H5N6 and H5N8 viruses emerged. Reassortment (gene-swapping) of H5 viruses with wild bird lineages led to the emergence and detection of H5N6 and H5N8 virus subtypes ... in Asia, Europe, and North America. In January 2014, the first human infection [of] HPAI H5N1 ... was reported in Canada in a traveler returning from China. In December [of] 2014, [USDA] reported HPAI H5N2 and H5N8 viruses in [U.S.] wild birds in several states.
2015	[In January, HPAI H5N1 was identified in a wild bird sample taken in 2014. It is believed that the virus was a reassortment of the Asian lineage H5 combined with an N1 NA from a North American wild bird. Between January and June HPAI H5 outbreaks were reported across 21 states and Canada in commercial poultry flocks.]
2016	Avian influenza HPAI H5N8 virus was detected in two seals stranded on the Baltic coast of Poland in 2016 and 2017.
2017	Outbreaks of HPAI H5N8 ... in domestic poultry and wild birds [were reported] in Europe, Asia, and parts of Africa.
2018	HPAI H5N6 and H5N8 ... become the predominant type of bird flu circulating among birds in Asia, Africa, the Middle East, and Europe.
2019	861 human cases of H5N1 virus infection and 455 deaths had been reported from 17 countries since November 2003.

2020	Reassortment ... between poultry and wild bird viruses led to the emergence of HPAI H5N1 with the NA viruses with an NI NA from wild birds. [It was] first identified in Europe [and then] spread across Europe and into Africa, the Middle East and Asia. Five human cases of HPAI H5N6 virus infection were reported in China. [In the fall,] HPAI H5N8 virus was detected in several swans, seals, and a fox in the United Kingdom. In December, HPAI H5N8 was isolated from an asymptomatic poultry worker in Russia.
2021	[Additional] reports of HPAI H5N8 ... in seals [from] the United Kingdom, Germany, and Denmark. In March ... Laos reported its first human infection with HPAI H5N6 in a child who first became mildly ill in February following contact with infected poultry. In May ... HPAI H5N1 virus was detected in wild fox kits [juvenile foxes] at a rehabilitation center in the Netherlands, during an outbreak of HPAI in wild birds. [This was followed in December by reported infections] in wild foxes in Estonia. China reported 36 [human cases of] HPAI H5N6 virus with 18 deaths [in 2021].
2022 (January)	HPAI H5N1 clade 2.3.4.4b virus infection was reported in an asymptomatic 80-year-old man who raised ducks that became sick in England in late December 2021. First HPAI H5N1 virus (clade 2.3.4.4b) infection in wild birds in the United States since 2016 was reported by USDA/APHIS.
2022 (February)	Peru reported HPAI H5N1 virus infections in sea lions following deaths of hundreds of sea lions that began in January. USDA/APHIS announced an HPAI H5N1 outbreak in turkeys in a commercial poultry facility, marking the first HPAI detection in commercial poultry in the United States since 2020.
2022 (March)	Cambodia reported a case of LPAI H9N2 virus infection in a young child who was hospitalized for one day.
2022 (April)	The first human case of HPAI H5N1 virus was reported in the United States. The first human infection with low pathogenic avian influenza A H3N8 virus was reported in China. [Between January and April], China reported seven cases of HPAI H5N6 virus infection following poultry exposures, with severe or critical illness, including one death. [In this same time period,] China reported four cases of LPAI H9N2 virus infection, three in children and one in an adult, all with mild illness.
2022 (May)	Sporadic HPAI H5 virus infections in mammals were ... reported in several U.S. states and Canadian provinces[,] as well as in other countries.
2022 (May)	China reported a case of LPAI H10N3 virus infection in a man without known poultry exposure who became critically ill but recovered.
2022 (June-July)	HPAI H5N1 virus was ... detected in ten seals in Maine.
2022 (May-September)	At least eight U.S. states ... detected HPAI H5 virus in fox kits. [Other mammals also began to test positive for H5, including] two bobcats in Wisconsin, a coyote pup in Michigan, raccoons in Washington and Michigan, skunks in Idaho and Canada, and Mink in Canada.
2022 (May-September)	China reported four human cases of HPAI H5N6 virus infection after poultry exposures, with severe or critical illness, including one death.
2022 (May-September)	China reported four cases of LPAI H9N2 virus infection in children, including one who was hospitalized.
2022 (September)	Spain reported a human case of HPAI H5N1 in an asymptomatic poultry worker who was working at a poultry farm with a confirmed outbreak of H5N1.
2022 (October)	Vietnam reported a case of human infection with HPAI A(H5) virus in a child who became critically ill following exposure to infected backyard poultry. HPAI H5N1 viruses of clade 2.3.4.4b caused infections and some deaths among mink on a farm in northwest Spain.

2022 (November)	Spain reported a second human case of HPAI H5N1 in an asymptomatic poultry worker at the same poultry farm. China reported a human case of HPAI H5N1 virus infection following poultry exposure in an adult who developed critical illness and died.
2022 (October-November)	H5N1 virus infections [were] reported in [additional] mammals, including sea lions in New England and Peru, and bears, wild foxes, and skunks in Canada, the United States, and other countries.
2022 (October-November)	China reported four cases of LPAI H9N2 virus infection ... three mild cases in children, and one case of severe illness in an adult.
2022 (November-December)	H5N1 virus infections were reported in bears in Alaska, Nebraska, and Montana.
2023 (January)	Ecuador reported its first human infection with HPAI A(H5) in a child who became critically ill following exposure to infected backyard poultry.
2023 (February)	Cambodia Ministry of Health reported two human infections with HPAI H5N1 virus, including one fatal case.
2023 (December)	HPAI A(H5N1) virus was found to have infected a polar bear for the first time. This also was the first time an Arctic animal died from HPAI A(H5N1) virus. HPAI A(H5N1) virus infections were reported in elephant and fur seals in the Antarctic.
2024 (March)	[In Minnesota,] HPAI A(H5N1) virus ... infections were reported for the first time in goat kids (juvenile goats) on a farm, where a poultry flock had tested positive for the same virus. H5N1 bird were reported for the first time in dairy cows on farms in Kansas and Texas.
2024 (April)	A person in the United States tested positive for highly pathogenic avian influenza H5N1 bird flu. This would be the first reported cow-to-human spread of H5N1 bird flu.
2024 (May)	CDC reports the second (May 22) and third (May 30) cases of H5N1 bird flu virus infection in people who had exposure to infected dairy cows in Michigan. [On May 28,] USDA confirmed the first H5N1 bird flu virus infections in alpacas on the same premises where a poultry flock had tested positive for the same virus earlier that month.
2024 (July)	CDC confirms the fourth case of H5N1 bird flu virus infection in a person who had exposure to infected cows in Colorado.
2024 (September-October)	[First human H5N1 case in the United States (Missouri) reported with no known exposure to animals. ^a First confirmed H5N1 infection reported in a pig in Oregon on a farm co-located with poultry that had also tested positive for H5N1. ^b]
2025 (January)	[H5N9 reported in a California duck farm. ^c Louisiana reports the first H5N1-related human death in the United States. ^d]
2025 (May)	[Since 2022, 13,025 wild birds have tested positive for avian influenza, and 169,296,749 poultry have been affected by avian influenza. ^e Since March 2024, 1,063 dairy herds have been affected by avian influenza. ^f]

Source: Primary sources are Centers for Disease Control and Prevention (CDC), “1880-1959 Highlights in the History of Avian Influenza (Bird Flu) Timeline,” April 30, 2024, <https://www.cdc.gov/bird-flu/avian-timeline/1880-1959.html>; CDC, “1960-1999 Highlights in the History of Avian Influenza (Bird Flu) Timeline,” April 30, 2024, <https://www.cdc.gov/bird-flu/avian-timeline/1960-1999.html>; CDC, “2000-2009 Highlights in the History of Avian Influenza (Bird Flu) Timeline,” April 30, 2024, <https://www.cdc.gov/bird-flu/avian-timeline/2000-2009.html>; CDC, “2010-2019 Highlights in the History of Avian Influenza (Bird Flu) Timeline,” April 30, 2024, <https://www.cdc.gov/bird-flu/avian-timeline/2010-2019.html>; CDC, “2020-2024 Highlights in the History of Avian Influenza (Bird Flu) Timeline,” April 30, 2024, <https://www.cdc.gov/bird-flu/avian-timeline/2020s.html>. Additional sources are listed below.

Notes: HPAI = highly pathogenic avian influenza; LPAI = low pathogenic avian influenza; HA = hemagglutinin; NA = neuraminidase; APHIS = Animal and Plant Health Inspection Service.

- a. Michaela Simoneau et al., “The United States Needs to Step Up Its Response to Bird Flu,” Center for Strategic and International Studies, December 19, 2024, <https://features.csis.org/US-bird-flu-response/>.
- b. U.S. Department of Agriculture (USDA), “Federal and State Veterinary Agencies Share Update on HPAI Detections in Oregon Backyard Farm, Including First H5N1 Detections in Swine,” press release, October 30, 2024, <https://www.aphis.usda.gov/news/agency-announcements/federal-state-veterinary-agencies-share-update-hpai-detections-oregon>.
- c. Reuters, “US Reports First Outbreak of H5N9 Bird Flu in Poultry,” January 27, 2025, <https://www.reuters.com/business/healthcare-pharmaceuticals/us-reported-first-outbreak-h5n9-bird-flu-poultry-woah-says-2025-01-27/>.
- d. Louisiana Department of Health (LDH), “LDH Reports First U.S. H5N1-Related Human Death,” press release, January 6, 2025, <https://ldh.la.gov/news/H5N1-death>.
- e. CDC, “H5 Bird Flu: Current Situation,” May 30, 2025, <https://www.cdc.gov/bird-flu/situation-summary/index.html>.
- f. CDC, “H5 Bird Flu: Current Situation,” May 30, 2025, <https://www.cdc.gov/bird-flu/situation-summary/index.html>.

Appendix B. Glossary of Selected Terms

Table B-1. Glossary of Selected Terms

Term	Definition
Avian influenza	A highly contagious viral disease affecting both domestic and wild birds “caused by viruses divided into multiple subtypes (i.e. H5N1, H5N3, H5N8 etc.) whose genetic characteristics rapidly evolve.” ^a
Biosurveillance	A process that detects and characterizes outbreaks of disease in people, plants, and animals. It monitors the environment for bacteria, viruses, and other biological agents that cause disease. ^b
Clade	A group of organisms that evolved from a common ancestor. For avian influenza, it is the organization of the hemagglutinin gene highly pathogenic avian influenza based on molecular analysis. “The mutation of the [hemagglutinin gene] has resulted in genetically divergent groups of virus strains termed clades such as 2.3.4.4b.” ^c
Endemic	A disease outbreak consistently present but limited to a particular region or country. ^d
Epidemic	“An unexpected increase in the number of disease cases in a specific geographical area.” ^e
Epizootic	Outbreak of a disease in an animal population.
H5N1	“One of several influenza viruses that causes a highly infectious respiratory disease in birds called avian influenza, or bird flu. Can also cause a range of diseases in human, from mild to severe, and in some cases [death].” ^f
Highly pathogenic avian influenza (HPAI)	Avian influenza “that can cause severe clinical signs and possible high mortality rates.” ^g
Influenza A virus	<i>Alphainfluenzavirus influenzae</i> is a pathogen that infects birds and some mammals. Influenza “A viruses are divided into subtypes based on two proteins on the surface of the virus: hemagglutinin (H) and neuraminidase (N). There are 18 different hemagglutinin subtypes and 11 different neuraminidase subtypes (H1 through H18 and N1 through N11, respectively).” [It is the only influenza virus] known to cause flu pandemics. ^h
Low pathogenic avian influenza (LPAI)	Avian influenza “that typically causes little or no clinical signs.” ⁱ
Mutation	A mutation occurs when there is a change to the genetic material of a virus (e.g.; DNA or RNA) as it replicates inside a host cell. Viruses mutate to adapt to their surroundings, enabling them to move more efficiently from host to host (transmissibility). ^j A mutation can result in a new variant of the virus.
Mutation rate	“The number of new mutations in the genome of a virus over a unit of time, usually one generation.” ^k
Pandemic	“An epidemic occurring worldwide or over a very wide area, crossing international boundaries, and usually affecting a large number of people.” ^l “The WHO declares a pandemic when a disease’s growth is exponential.” ^m
Panzootic	“A widespread outbreak of a disease affecting several kinds of animals.” ⁿ
Pathogen	An agent that causes disease, especially a living organism such as a virus, bacterium, or fungus.
Reassortment	A process where viruses co-infecting a cell exchange segments of their genomes, which results in a novel virus. ^o
Spillover	Transmission of a pathogen from an animal to a human.

Transmission	The process by which a pathogen passes from a source of infection to a new host.
Variant	Any change to the genetic sequence of a virus that occurs when a virus replicates. These changes can affect transmission, severity, treatment and immunity. Also referred to as a <i>viral mutant</i> , <i>variant</i> , or <i>strain</i> . ^p
Zoonosis or zoonotic disease	Any disease or infection that is naturally transmissible vertebrate animals to humans.

Source: CRS, using material from sources listed below.

Notes:

- a. World Organisation for Animal Health (WOAH), “What Is Avian Influenza?” 2025, <https://www.woah.org/en/disease/avian-influenza/>.
- b. Michael M. Wagner, “Introduction,” in *Handbook of Biosurveillance*, ed. Michael M Wagner et al. (Elsevier, 2006).
- c. Food and Agriculture Organization of the United Nations and WOA, *Global Strategy for the Prevention and Control of High Pathogenicity Avian Influenza (2024–2033)*, 2025, p. 23, <https://www.woah.org/app/uploads/2025/02/web-gf-tads-hpai-strategy-woah.pdf>.
- d. Columbia University Irving Medical Center, “Epidemic, Endemic, Pandemic: What Are the Differences?,” February 19, 2021, <https://www.publichealth.columbia.edu/news/epidemic-endemic-pandemic-what-are-differences>.
- e. Columbia University Irving Medical Center, “Epidemic, Endemic, Pandemic: What Are the Differences?,” February 19, 2021, <https://www.publichealth.columbia.edu/news/epidemic-endemic-pandemic-what-are-differences>.
- f. World Health Organization (WHO), “Influenza: A(H5N1),” May 16, 2024, <https://www.who.int/news-room/questions-and-answers/item/influenza-h5n1>.
- g. WOA, “What Is Avian Influenza?,” 2025, <https://www.woah.org/en/disease/avian-influenza/>.
- h. Centers for Disease Control and Prevention, “Types of Influenza Viruses,” September 18, 2024, <https://www.cdc.gov/flu/about/viruses-types.html>.
- i. WOA, “What Is Avian Influenza?,” 2025, <https://www.woah.org/en/disease/avian-influenza/>.
- j. Mahdee Sobhanie, “How Do Virus Mutations Happen, and What Do They Mean?,” Ohio State University Wexner Medical Center, December 14, 2021, <https://wexnermedical.osu.edu/our-stories/virus-mutations-what-do-they-mean>.
- k. Itamar Caspi et al., “Mutation Rate, Selection, and Epistasis Inferred From RNA Virus Haplotypes Via Neural Posterior Estimation,” *Virus Evolution*, vol. 9, no. 1 (2023).
- l. Sara Agnelli and Ilaria Capua, “Pandemic or Panzootic—A Reflection on Terminology for SARS-CoV-2 Infection,” *Emerging Infectious Diseases*, vol. 28, no. 12 (2022).
- m. Columbia University Irving Medical Center, “Epidemic, Endemic, Pandemic: What Are the Differences?,” February 19, 2021, <https://www.publichealth.columbia.edu/news/epidemic-endemic-pandemic-what-are-differences>.
- n. Sara Agnelli and Ilaria Capua, “Pandemic or Panzootic—A Reflection on Terminology for SARS-CoV-2 Infection,” *Emerging Infectious Diseases*, vol. 28, no. 12 (2022).
- o. John Steel and Anice C. Lowen, “Influenza A Virus Reassortment,” in *Influenza Pathogenesis and Control - Volume I. Current Topics in Microbiology and Immunology*, ed. Richard W. Compans and Michael B. A. Oldstone (Springer, 2014), pp. 377-401.
- p. Titus Divala, “What Is a Variant? An Expert Explains,” Wellcome, October 18, 2023, <https://wellcome.org/news/what-variant-expert-explains>.

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May 11, 2026

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Recent supply chain disruptions have contributed to price increases for certain consumer goods, such as vehicles, groceries, apparel, and consumer electronics. Congress has expressed interest in various types of retailers that sell these consumer goods, particularly after their profits and prices have increased following supply chain disruptions.

Retailers provide services to producers and consumers and charge a price for their services. One of their main services is *inventory management*. That is, retailers acquire, hold, and maintain goods that are for sale to consumers. A retailer's inventory management can affect its pricing behavior, particularly during supply chain disruptions. For example, if supply chain disruptions prevent a retailer from acquiring new inventory, the retailer might choose to increase prices to potentially increase its profits, avoid selling out of a product, or both. The price of a retail service is typically the *markup* charged on the product—the difference between the amount a retailer pays the supplier and the amount the retailer charges the consumer. The size of a markup may vary with time, retailer type, and a variety of competitive and contextual factors.

Retailer behavior can affect how supply chain disruptions transmit down to the consumer. Retailers' responses to such events may vary by the type of retailer, type of disruption, and a variety of contextual factors, such as inventory levels, competition, retail pricing strategies, and information access. Because of these factors, changes in markups and consumer prices are not uniformly driven by supplier price changes. Retailers might increase, decrease, or maintain their markups following changes in supplier pricing. During the Great Recession, vehicle dealerships paid higher prices to manufacturers that faced tightening financial constraints but did not pass those higher costs on to consumers. In contrast, during the COVID-19 pandemic, vehicle dealerships increased markups while experiencing record low vehicle inventories. As another example, grocery stores increased markups for meats during certain agricultural supply chain disruptions. Changes in tariffs in 2025 contributed to changes in import volumes and prices paid by retailers, both of which might affect retailer behavior. How a retailer responds to a supply chain disruption can affect both its profitability and consumer prices.

A retailer typically makes pricing and inventory decisions in response to market forces, such as consumer demand for its products, competitive pressure from other retailers, and the diversity of its upstream supplier network. Statute can affect retailers' pricing behaviors within certain contexts. For example, Section 102 of the Defense Production Act of 1950 (50 U.S.C. §4512) prohibits hoarding of materials that the President has designated as scarce for the purpose of selling those goods at an elevated price.

No federal laws or regulations explicitly prohibit *price gouging*, a term often used to describe price increases perceived to be excessive, typically in response to sudden changes in supply or demand (e.g., caused by a supply chain disruption). Price gouging bills introduced by Members of the 119th Congress and state price gouging laws often have focused on supply chain disruptions or other market shocks. Congress might consider using its oversight authority to ask federal agencies to take actions to enforce existing laws that can affect pricing during supply chain disruptions. Congress might consider addressing price gouging through legislation. If Members of Congress choose to introduce additional legislation related to price gouging, considerations may include the circumstances in which a price increase might be considered excessive, whether to prohibit a specific price increase in statute or direct a federal agency to promulgate regulations to define the terms excessive or price gouging, and whether to prohibit price gouging in specific contexts or for certain goods.

Congress also might consider legislation addressing supply chain resiliency. One option that Congress might consider is to direct research to identify industries to build supply chain resiliency and support domestic production of certain goods. The House and Senate passed their respective versions of a Promoting Resilient Supply Chains Act of 2025 (H.R. 2444; S. 257), which would direct the Assistant Secretary of Commerce for Industry and Analysis to lead and establish an intergovernmental working group to develop plans and analyses to increase U.S. supply chain resiliency for industries and goods critical to U.S. economic or national security.

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Introduction

A range of recent supply chain disruptions have contributed to price increases for certain consumer goods,¹ such as vehicles, groceries, apparel, and consumer electronics. In some cases, price increases for these goods have coincided with higher retail profits. Congress has expressed interest in various types of retailers that sell these consumer goods, particularly after their profits and prices increased following supply chain disruptions.² For example, the pricing behavior, inventory levels, and profits of grocery stores and vehicle dealerships received attention from some Members of Congress following recent supply chain disruptions. Additionally, some Members have also commented on the potential effects of certain tariff increases on the availability and price of retail goods such as apparel and consumer electronics.³

This report discusses how retailer behavior and inventory levels can affect consumer prices for certain goods during supply chain disruptions. The specific types of retail goods that receive congressional attention generally reflect the concerns of consumers. The behaviors and disruptions of a selection of consumer goods analyzed in this report illustrate the range of possible retailer pricing and inventory behaviors during supply chain disruptions.

During the 119th Congress, some Members have introduced legislation that could affect the availability and pricing of retail goods during supply chain disruptions. This report (1) provides background on the retail industry, (2) analyzes the pricing behavior of certain retailers during selected supply chain disruptions, and (3) discusses selected policy options for Congress. Selected options discussed in this report include continued oversight, legislation to prohibit certain price increases in some contexts, and legislation to affect supply chain resiliency.

Retailing Background

Retailers provide services to producers and consumers.⁴ Generally, these services can help consumers acquire goods and provide producers a place to store and market their goods. Retailers charge a price for these services and typically charge consumers a higher price for goods than the

¹ A supply chain disruption is an event that affects supplier networks and that typically contributes to supplier prices increasing at accelerated rates or the availability of goods decreasing or both.

² For example, see U.S. Congress, House Committee on Energy and Commerce, Subcommittee on Consumer Protection and Commerce, *Pandemic Profiteers: Legislation to Stop Corporate Price Gouging*, hearing, 117th Cong., 2nd sess., February 2, 2022, <https://docs.house.gov/Committee/Calendar/ByEvent.aspx?EventID=114360>; U.S. Congress, Senate Committee on Banking, Housing, and Urban Affairs, *The Semiannual Monetary Policy Report to the Congress*, hearing on the Oversight on the Monetary Policy Report to Congress Pursuant to the Full Employment and Balanced Growth Act of 1978, 118th Cong., 1st sess., March 7, 2023, S.Hrg. 118-205; and U.S. Congress, Senate Special Committee on Aging, *Making Washington Work for Seniors: Fighting to End Inflation and Achieve Fiscal Sanity*, hearing, 119th Cong., 1st sess., January 29, 2025, <https://www.congress.gov/event/119th-congress/senate-event/LC74258/text>.

³ U.S. Joint Economic Committee, Representative Don Beyer, “Trump’s Tariff Plans Will Drive up Costs for the Average American Family between \$1,600 and \$2,000 per year,” March 3, 2025, https://beyer.house.gov/uploadedfiles/jec_house_dems_trump_tariffs_report_3.3.25.pdf; and “Short Term Pain, Long Term Gain: Rep. Burchett on Tariffs,” *Bloomberg*, April 3, 2025, <https://www.bloomberg.com/news/videos/2025-04-03/short-term-pain-long-term-gain-rep-burchett-on-tariffs-video>.

⁴ In the context of this report, a retailer is a business with a physical store that purchases goods for purposes of resale to final consumers. A producer is a business that creates a physical good through an assembly, manufacturing, agricultural, mining, packaging, or other physical activity. Producers might sell their physical goods directly to a retailer or to an intermediary (commonly referred to as a wholesaler).

retailers pay the suppliers of these goods.⁵ Retailers also seek other profit opportunities tied to their services and goods (e.g., financial products, insurance products, warranties).⁶ This section describes and analyzes (1) retail inventory management and (2) the prices retailers charge for providing their services.

Retail Inventory Management

Retailers aim to maximize their revenue by matching consumers and products across a range of preferences, characteristics, prices, and time horizons. They facilitate that matching process by managing inventory and evaluating consumer behavior, among other activities. Inventory management is one of the main services of a retailer that can affect its pricing behavior, particularly during supply chain disruptions.

Retailers acquire, hold, and maintain *inventories* available for sale to consumers. Inventories are the unfinished or finished goods that a business possesses at its facilities that it has not yet sold; for retailers, these are generally finished goods. Retailers typically acquire these inventories from multiple suppliers, although some retailers might acquire them from one supplier. Retailer inventory management can help producers reduce manufacturing costs by, for example, enabling manufacturers to produce larger batches of goods, thereby reducing the average per-unit cost of production. Retail inventory management services also can allow producers to shift the cost of overproduction to retailers if consumer demand is lower than expected because the retailer would hold the excess inventory. If demand is higher than expected, the retailer might be able to increase prices and obtain a greater profit. Retailers also help suppliers reach consumers in different geographic areas. These services also can help consumers find a variety of goods and brands to choose from in one location.

Holding and maintaining inventories is costly for retailers.⁷ Thus, retailers tend to hold an inventory level that they believe balances the conflicting risks of losing potential revenue by selling out of inventory and of incurring additional costs from potentially holding inventory levels that exceed consumer demand.⁸ The amount of inventory a retailer holds depends on factors such as the characteristics of their consumer base and the costs of holding inventory. The costs to retailers to hold inventory may include financing and insurance, maintenance, depreciation, spoilage, obsolescence, and theft. Different products or industries may have different cost profiles. For example, a vehicle may have higher inventory financing and insurance costs than a food item at a grocery store.⁹ These factors, among others, result in different types of retailers holding different levels of inventories relative to their sales.

Supply chain disruptions can limit a retailer's ability to acquire inventories. Congress has held hearings on the effect of some recent supply chain disruptions on retail inventory levels and

⁵ A supplier is a business that sells a physical good to a retailer. Suppliers can be producers or wholesalers. Wholesalers acquire their goods from producers or other wholesalers.

⁶ Kevin Camp et al., "Automotive Dealerships 2007-19: Profit-Margin Compression and Product Innovation," *Monthly Labor Review*, BLS (October 2022), <https://doi.org/10.21916/mlr.2022.26>.

⁷ Amulya Gurtu, "Optimization of Inventory Holding Cost Due to Price, Weight, and Volume of Items," *Journal of Risk and Financial Management*, vol. 14, no. 2 (February 2021), p. 65, <https://doi.org/10.3390/jrfm14020065>.

⁸ Eric T. Anderson et al., "Measuring and Mitigating the Costs of Stockouts," *Management Science*, vol. 52, no. 11 (November 2006), p. 1751, <http://dx.doi.org/10.1287/mnsc.1060.0577>; and Terry Damron and William T. Rupp, "Inventory Control in the Retail Sector: Case Studies of Best Business Practices," *International Journal of Procurement Management*, vol. 9, no. 3 (2016), p. 354, <http://dx.doi.org/10.1504/IJPM.2016.076309>.

⁹ Unless noted otherwise, throughout this report, *grocery store* refers to a store that primarily sells food intended for consumption at home (e.g., Kroger, Albertsons); it does not include a supercenter (e.g., Walmart Supercenter, Target) or warehouse club (e.g., Costco, Sam's Club).

prices.¹⁰ Because retailers tend to hold the amount of inventory that they believe balances the risks of selling out or holding too much, unexpected changes in supply or demand can contribute to shortages or excess inventory. If supply chain disruptions become more frequent, some retailers may choose to hold more inventory to be more resilient to these disruptions. For retailers and consumers, this increased retail inventory might reduce the likelihood of shortages and related short-term, scarcity-driven price increases. Holding more inventory might also increase costs for retailers, who might pass on these costs to consumers through higher prices.

Retail Prices: Markups

Retailers charge a price for the services they provide. The price of a retail service is typically the *markup* charged on the product—that is, the difference between what a retailer pays the supplier and what the retailer charges the consumer.¹¹ For example, if a retailer pays its supplier \$20 for a shirt and sells it to a consumer for \$30, the price of the retail service and markup would be \$10. Markups can be expressed in dollars or as a percent. In the example above, the dollar markup would be \$10 and the markup percent would be 50% ($\$10 \div \20). For retailers that sell many types of products, the markup on each product may differ. The markup charged by a retailer can vary across retailer types. For example, in 2024, publicly traded vehicle dealerships typically had a markup percent between 6% and 9%,¹² while publicly traded grocery stores typically had a markup percent between 30% and 40%.¹³

A retailer with a higher markup is not necessarily more profitable than a retailer with a lower markup. Retailers use the *gross profits*¹⁴ generated from selling products to pay their other costs (e.g., operating costs such as wages, utilities, and rents). If the gross profits exceed those other costs, then the retailer will have generated a *net profit*.¹⁵ A retailer's total profitability also depends on the total value of its sales, its other costs, and other ancillary services from which it might profit.¹⁶ For example, a retailer with \$1 million in sales at an 8% markup would earn a gross profit of \$74,074, whereas a retailer with \$300,000 in sales at a 30% markup would earn a lesser gross profit of \$69,231. Cash generated from gross profits can be used to pay a retailer's operating costs, which can vary across retailers. For example, in 2024, operating costs for publicly traded grocery stores were typically between 17% and 26% of total sales, whereas

¹⁰ For example, see U.S. Congress, House Committee on Energy and Commerce, Subcommittee on Consumer Protection and Commerce, *Pandemic Profiteers: Legislation to Stop Corporate Price Gouging*, hearing, 117th Cong., 2nd sess., February 2, 2022, <https://docs.house.gov/Committee/Calendar/ByEvent.aspx?EventID=114360>.

¹¹ Producer Price Index Program Staff, "Wholesale and Retail Producer Price Indexes: Margin Prices," *Beyond the Numbers*, U.S. Bureau of Labor Statistics (BLS), vol. 1, no. 8 (August 2012), <https://www.bls.gov/opub/btn/volume-1/wholesale-and-retail-producer-price-indexes-margin-prices.htm>; and BLS, *Handbook of Methods: Producer Price Indexes*, July 31, 2025, <https://www.bls.gov/opub/hom/ppi/concepts.htm>.

¹² Typical range identified by CRS analysis of vehicle dealership 10-Ks. For example, see AutoNation, Inc., *Form 10-K for the Fiscal Year Ended December 31, 2024*, filed with the U.S. Securities and Exchange Commission (SEC), February 14, 2025, <https://www.sec.gov/ix?doc=/Archives/edgar/data/0000350698/000035069825000029/an-20241231.htm>.

¹³ Typical range identified by CRS analysis of grocery store 10-Ks. For example, see Albertsons Companies, Inc., *Form 10-K for the Fiscal Year Ended February 22, 2025*, filed with the SEC, April 21, 2025, <https://www.sec.gov/ix?doc=/Archives/edgar/data/0001646972/000164697225000052/aci-20250222.htm>. This markup percent does not apply to supercenters (e.g., Walmart, Target) and warehouse clubs (e.g., Costco, Sam's Club).

¹⁴ *Gross profits* are revenues minus inventory acquisition costs (i.e., net profits before subtracting operating, administrative, and other costs).

¹⁵ *Net profits* are revenues minus total costs.

¹⁶ For example, vehicle dealerships generally earn more profits from financial and insurance sales than they do from vehicle sales; Camp et al., "Automotive Dealerships 2007-19."

operating costs for publicly traded vehicle dealerships were typically between 10% and 12% of total sales.¹⁷

The markup a retailer charges is influenced by consumer behavior, the prices it pays suppliers, and a range of competitive and contextual factors. These factors include the availability of substitutes for a retailer's product, competition among retailers to sell the same product in the same market, cost structure of products and markets, inventory levels for products for sale, and a retailer's range of products. Retailers sometimes implement a pricing strategy tailored to one or more of those factors.

To maximize revenues, retailers may change prices and markups in response to changes in market conditions. For example, if a retailer thinks demand is increasing faster than it can acquire additional inventory, the retailer might increase prices so that it can get the most revenue out of its available inventory. Conversely, if demand is falling and the retailer is concerned it might have excess inventory, the retailer might decrease prices to attract consumers and stimulate sales. Producers may change their production levels in response to retailer price changes, which might result in additional changes in price. For example, when retailers increase their markups and prices, doing so can incentivize producers to increase production. If supply chains are functioning smoothly and producers are able to increase production, retailers may have more inventory to sell, which can result in decreases in prices if inventory levels increase relative to sales.

In some cases, ethical considerations could arise when retailers increase prices during supply chain disruptions. Some consumers and policymakers might assert that the fairest way to allocate scarce goods is to adjust the price. This allows the consumers who are willing to pay more for these goods to obtain them and retailers to generate a higher profit. Alternatively, some consumers and policymakers might assert it is unethical or unfair for a retailer to raise prices during a disruption when supply is constrained and inventories are low. When supply is constrained, higher markups and retail prices might not result in increased supply of a good. This can contribute to perceptions of *profiteering*, which is a word commonly used to describe someone gaining a profit without providing a commensurate value in return. Price increases that occur during rapid supply or demand changes, such as in response to a natural disaster or other supply chain disruption, are sometimes considered to be *price gouging*, which is a term often used to describe price increases perceived to be excessive, typically in response to sudden changes in supply or demand (e.g., caused by a supply chain disruption). For example, during the COVID-19 pandemic, the Attorney General for the District of Columbia suggested that a convenience store was "price gouging" for selling scarce cleaning supplies at a reported 200% markup.¹⁸ Some retailers might use extra revenue earned during supply chain disruptions to make improvements, such as investing in commercial infrastructure that might help them manage inventory effectively.

If supply chain disruptions were to become more frequent, retailers might respond by holding more inventory or diversifying their supplier network by identifying additional sources of goods. This might result in fewer price fluctuations if retailers are less susceptible to supply chain disruptions. It might also incentivize more producers to enter supplier markets, resulting in supply

¹⁷ In this report, *operating costs* refer to selling, general, and administrative costs. Typical range identified by CRS analysis of vehicle dealership and grocery store 10-Ks. For example, in 2024, Albertsons Companies' "selling & administrative expenses" were 26% of its total revenue, whereas AutoNation's "selling, general, and administrative expenses" were 12% of its total revenue (see Albertsons Companies, Inc., *Form 10-K*; and AutoNation, Inc., *Form 10-K*, respectively).

¹⁸ Sydney Coplin, "DC Convenience Store Accused of Price Gouging During State of Emergency," *NBCWashington*, May 4, 2020, <https://www.nbcwashington.com/news/coronavirus/dc-convenience-store-accused-of-price-gouging-during-state-of-emergency/2292842/>.

chain resiliency without intervention from policymakers. Retailers may be unable to diversify their supplier network if it is too costly or if additional sources of the goods do not exist. For example, scarcity-driven price increases may be too small or too brief to incentivize domestic producers to enter a market. As another example, tariffs or other trade restrictions could prevent retailers from using suppliers in other countries.

Retailers and Supply Chain Disruptions

Retailers' pricing behaviors during supply chain disruptions highlight their role as the final node in supply chains for new consumer goods. Retailer behavior can affect how supply chain disruptions transmit down to the consumer. Retailers might respond differently depending on whether the disruption directly affects prices, inventories, or both. Changes to inventory levels are some of the main contributors to changes in retail prices during supply chain disruptions,¹⁹ but other factors can affect retail prices (e.g., competition, consumer demand, retail pricing strategies, and information access). Because of these factors, changes in retailer markups and consumer prices are not uniformly driven by changes in supplier prices or inventory levels.

During a supply chain disruption, retailers might increase, decrease, or maintain their markups in response to changes in supplier pricing or inventory levels. For example, multiple studies found that retail markups accounted for some of the increased inflation during the COVID-19 pandemic;²⁰ during the Great Recession of 2007-2009 (GR), some retailers absorbed price increases from manufacturers by decreasing their markups.²¹ When retailers anticipate disruptions, they might adjust their inventories before and during the disruption.

This section analyzes retailer pricing and inventory behavior during a selection of disruptions to illustrate the different ways a retailer and its inventories can affect prices or product availability for consumers. Each of the disruptions and associated retailer responses may be relevant to potential policy options that Congress might consider. This section uses three examples that illustrate retailers increasing or decreasing their markups or adjusting their inventories during supply chain disruptions: (1) vehicle dealerships' responses to the GR and the COVID-19 pandemic, (2) grocery stores' responses to agricultural supply chain disruptions, and (3) import supply disruptions following changes in tariff conditions in 2025. The characteristics that distinguish each disruption include consumer demand, inventories, and the degree to which the disruption was anticipated.

¹⁹ Neil Mehrotra et al., *Retail Inventories and Inflation Dynamics: The Price Margin Channel*, International Finance Discussion Papers no. 1424, October 2025, <https://doi.org/10.17016/IFDP.2025.1424>; Florian Zettelmeyer et al., *Scarcity Rents in Car Retailing: Evidence from Inventory Fluctuations at Dealerships*, NBER, May 2006, <http://www.nber.org/papers/w12177>; Ayelet Israeli et al., "How Market Power Affects Dynamic Pricing: Evidence from Inventory Fluctuations at Car Dealerships," *Journal of Management Science*, vol. 68, no. 4 (October 2021), <http://dx.doi.org/10.1287/mnsc.2021.3967>; and Salomé Baslandze and Simon Fuchs, "The Price of Delay: Supply Chain Disruptions and Pricing Dynamics," Federal Reserve Bank of Atlanta, Working Paper 2025-8a, revised March 2026, <https://www.atlantafed.org/-/media/Project/Atlanta/FRBA/Documents/research/publication/working-paper/2025/09/24/08-the-price-of-delay-supply-chain-disruptions-and-pricing-dynamics.pdf>.

²⁰ Andrew Glover et al., "How Much Have Record Corporate Profits Contributed to Recent Inflation," *Economic Review*, Federal Reserve Bank of Kansas City, vol. 108, no. 1 (January 2023), <https://www.kansascityfed.org/documents/9329/EconomicReviewV108N1GloverMustredelRiovonEndeBecker.pdf>; Michael Havlin, "Automotive Dealerships 2019-22: Dealer Markup Increases Drive New-Vehicle Consumer Inflation," *Monthly Labor Review*, BLS (April 2023), <https://www.bls.gov/opub/mlr/2023/article/automotive-dealerships-markups.htm>; and Leila Davis, "Profits and Markups During the Post-COVID-19 Inflation Shock in the U.S. Economy: A Firm-Level Lens," *European Journal of Economics and Economic Policies*, vol. 21, no. 1 (September 2024), p. 309, <https://doi.org/10.4337/ejep.2024.0137>.

²¹ Camp et al., "Automotive Dealerships 2007-19."

Vehicle Dealership Markups: Great Recession and Pandemic

The changes in consumer prices and markups at vehicle dealerships during the GR and the COVID-19 pandemic demonstrate how inventory levels, consumer demand, and supplier prices may affect retailer behavior and prices during disruptions. The supply chain disruptions in each case had different characteristics, which contributed to contrasting responses from dealerships.

Great Recession

The GR precipitated some unique supply and demand conditions that affected vehicle dealership (retailer) behavior. The GR was a broad decrease in economic activity that lasted from December 2007 to June 2009. A contributing factor to the GR was a financial crisis that reduced the supply of cash and other liquid financial assets available to banks, households, and manufacturers.²² Although the GR was primarily a demand disruption in that consumer demand decreased as the financial crisis deepened, the underlying financial crisis contributed to some supply chain disruptions—especially for automotive manufacturers and vehicle dealerships. The GR example discussed in this subsection illustrates the role of retail inventory management services during disruptions and how prices charged by retailers can decrease despite price increases from their suppliers.

During the GR, vehicle dealerships paid higher prices to manufacturers and absorbed excess inventories while reducing prices for consumers. Because of tightening financial conditions and the potential of bankruptcy caused by the financial crisis,²³ manufacturers of new vehicles increased prices to remain solvent during the GR despite a decrease in consumer demand.²⁴ From December 2007 to January 2009,²⁵ prices paid by dealerships to acquire new vehicles increased on average by 2.5% for domestically produced vehicles and by 1.9% for imported vehicles.²⁶ Because of decreased consumer demand, dealerships could not pass these price increases onto consumers while maintaining vehicle sales. Inventory levels at dealerships increased, and the excess inventory contributed to lower markups (see **Figure 1**) and consumer prices at dealerships.²⁷ From December 2007 to January 2009, dealership markups decreased by 18.9%,²⁸ and prices that dealerships charged consumers for vehicles decreased by 2.7%.

²² For more information on the Great Recession (GR) and financial crises, see CRS Report R47479, *Common Causes of Economic Recession*, by Lida R. Weinstock.

²³ Simon Gilchrist et al., *Inflation Dynamics During the Financial Crisis*, National Bureau of Economic Research (NBER), November 2016, <http://www.nber.org/papers/w22827>.

²⁴ Camp et al., “Automotive Dealerships 2007-19.”

²⁵ December is baseline peak month immediately preceding the GR, and January 2009 is when dealership markups reached a GR minimum.

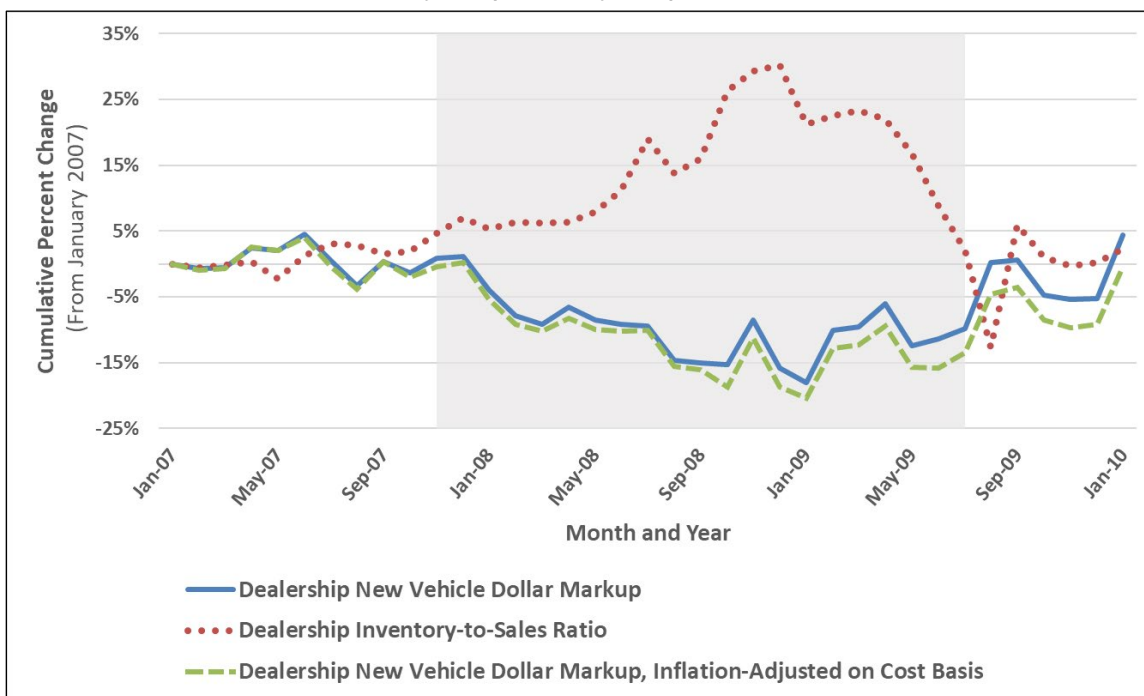
²⁶ CRS calculations based on Producer Price Index (PPI) and Import Price Index (IPP) data from BLS, accessed via the BLS one-screen data tool; BLS, *PPI for Commodity Data*, accessed September 16, 2025, <https://www.bls.gov/data/home.htm>; and BLS, “Data Tools,” accessed September 16, 2025, <https://www.bls.gov/data/home.htm>.

²⁷ Inventory levels affect vehicle dealerships’ pricing power; see Florian Zettelmeyer et al., *Scarcity Rents in Car Retailing: Evidence from Inventory Fluctuations at Dealerships*; and Ayelet Israeli et al., “How Market Power Affects Dynamic Pricing: Evidence from Inventory Fluctuations at Car Dealerships.”

²⁸ According to the BLS PPIs that track dollar markups. Unless otherwise specified, references to percent changes in dollar markups in this report are based on the BLS PPIs that directly measure changes to dollar markups.

Figure I. Vehicle Markups and Inventories During the Great Recession

January 2007 to January 2010



Source: CRS with data from U.S. Bureau of Labor Statistics (BLS) and U.S. Bureau of Economic Analysis.

Notes: Dealership New Vehicle Dollar Markup is a BLS price index that measures the change to the dollar markup (price – cost of goods sold). Dealership New Vehicle Dollar Markup, Inflation-Adjusted on Cost Basis is the Dealership New Vehicle Dollar Markup adjusted for inflation by the Producer Price Index and U.S. Import Price Indexes for vehicles. The inflation-adjusted measure indicates whether dollar markups grew at a faster or slower rate than supplier price changes. The Vehicle Dealership Inventory-to-Sales Ratio is a measure of inventory levels, where inventories are expressed as a ratio to sales. In the vehicle dealership industry, inventory levels sometimes have a relationship with dealership pricing behavior. The Great Recession (GR) began in December 2007 and lasted until June 2009 (illustrated by the gray box). The Global Financial Crisis began in summer 2007. January 2007 was chosen as the base year to provide pre-GR and pre-GFC context. January 2010 was chosen as the ending month because dealership markups had generally reached pre-GR levels by this time.

COVID-19 Pandemic

The COVID-19 pandemic was the worldwide spread of a new strain of coronavirus that affected numerous supply chains and consumer behaviors.²⁹ The pandemic example discussed in this subsection demonstrates how retailers may allocate scarce resources during a supply chain disruption by increasing prices, how decreases in inventories across retailers can enable them to increase prices without losing customers,³⁰ and how retailer price increases can materialize as a result of supply constraints originating further back in the supply chain.

During the COVID-19 pandemic, imbalances between demand and supply contributed to vehicle shortages at vehicle dealerships. When the COVID-19 pandemic began, many automotive manufacturers expected a prolonged economic recession and cancelled orders for new goods

²⁹ For more information on the effect of the COVID-19 pandemic on the U.S. economy, see CRS Report R46606, *COVID-19 and the U.S. Economy*, by Lida R. Weinstock.

³⁰ Zettelmeyer et al., *Scarcity Rents in Car Retailing*; and Israeli et al., “How Market Power Affects Dynamic Pricing.”

across their supply chains.³¹ The cancelled orders made it challenging to restart production in the automotive sector. For example, when automotive manufacturers cancelled orders for semiconductors, the cancellations contributed to semiconductor manufacturers pivoting their capacity and production toward technology companies.³² Automotive manufacturers then faced difficulties obtaining semiconductors, which delayed new vehicle production and contributed to limited inventories at dealerships. Meanwhile, consumer demand increased as a result of economic stimuli and pandemic-related behavior changes.³³

Because of the changes in production and consumer demand, the automotive industry experienced record-low vehicle inventories at dealerships and an increase in vehicle consumer prices that outpaced the increase in supplier prices. From January 2020 through June 2022,³⁴ the prices dealerships paid to manufacturers for new vehicles increased on average by 7.3% for domestically produced vehicles and 3.9% for imported vehicles.³⁵ Meanwhile, the prices dealerships charged consumers for vehicles increased on average by 16.2%.³⁶ This differential was reflected in higher markups at dealerships (see **Figure 2**).³⁷

³¹ David Coffin et al., *The Roadblocks of the COVID-19 Pandemic in the U.S. Automotive Industry*, International Trade Commission, Working Paper ID-091, June 2022, https://www.usitc.gov/publications/332/working_papers/final_the_roadblocks_of_the_covid-19_pandemic_in_the_automotive_industry.pdf.

³² Coffin et al., *The Roadblocks of the COVID-19 Pandemic in the U.S. Automotive Industry*; and Havlin, “Automotive Dealerships 2019-22.”

³³ Havlin, “Automotive Dealerships 2019-22.”

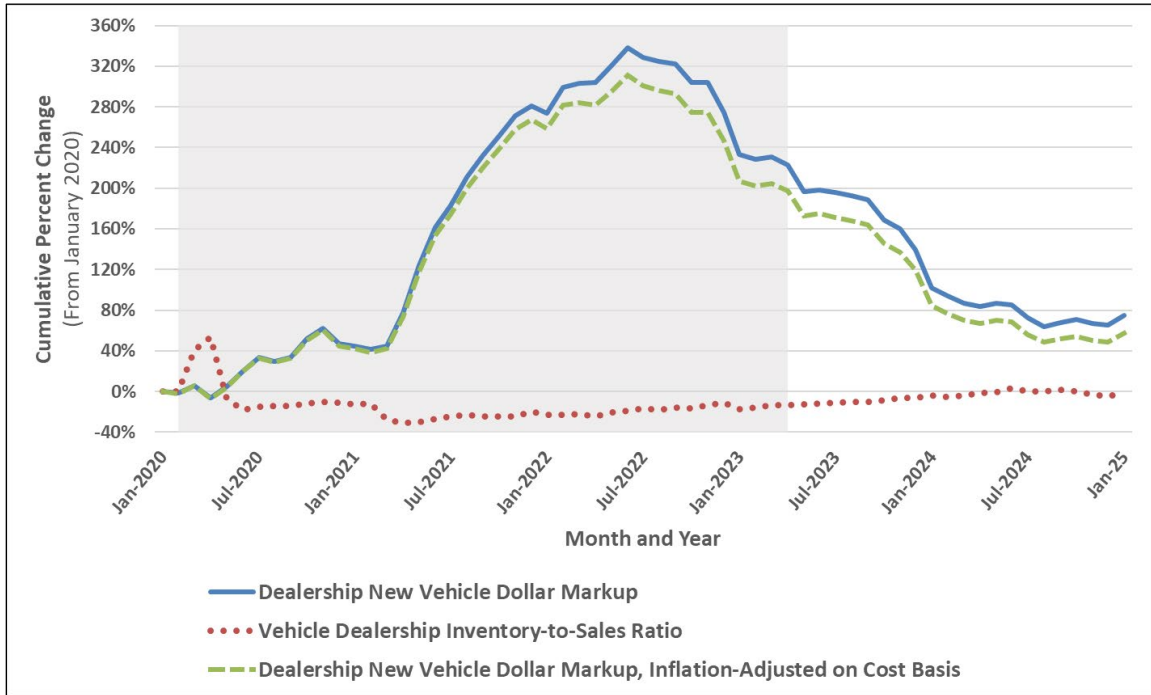
³⁴ January 2020 is used as the pre-Covid-19 baseline because some portions of the economy were being affected as early as February 2020, and June of 2022 is the referenced time period because it is when vehicle dealership markups reached the maximum level between January 2020 and January 2025.

³⁵ CRS calculations based on PPI and IPP data, accessed via the BLS one-screen data tool; BLS, “Data Tool,” accessed September 16, 2025, <https://www.bls.gov/data/home.htm>.

³⁶ CRS calculations based on Consumer Price Index (CPI) data from BLS, accessed via the BLS one-screen data tool; BLS, “Data Tool,” accessed September 16, 2025, <https://www.bls.gov/data/home.htm>.

³⁷ For demonstration of how these measures relate, see Havlin, “Automotive Dealerships 2019-22.”

Figure 2. Vehicle Markups and Inventories During the COVID-19 Pandemic
January 2020 to January 2025



Source: CRS with data from U.S. Bureau of Labor Statistics (BLS) and U.S. Bureau of Economic Analysis.

Notes: Dealership New Vehicle Dollar Markup is a BLS price index that measures the change to the dollar markup (price – cost of goods sold). Dealership New Vehicle Dollar Markup, Inflation-Adjusted on Cost Basis is the Dealership New Vehicle Dollar Markup adjusted for inflation by the Producer Price Index and U.S. Import and Export Price Indexes for vehicles. The inflation-adjusted measure indicates whether dollar markups grew at a faster or slower rate than supplier price changes. The Vehicle Dealership Inventory-to-Sales Ratio is a measure of inventory levels, where inventories are expressed as a ratio to sales. In the vehicle dealership industry, inventory levels sometimes have a relationship with dealership pricing behavior. A national emergency for the COVID-19 pandemic was declared in March 2020 and was terminated in April 2023 (illustrated by the gray box). This chart begins in January 2020 to provide pre-pandemic context. January 2025 is the ending date because it generally excludes certain tariff changes that occurred in 2025.

Grocery Store Markups During Selected Agricultural Shortages

Certain agricultural supply chain disruptions³⁸ have contributed to lower retail inventories and higher retail prices for meats.³⁹ The markup behavior of grocery stores during these agricultural supply chain disruptions highlight how dollar markups and retail prices can increase when retail markup percentages do not increase.⁴⁰ Additionally, this example discusses how an increasing

³⁸ The proportion of food manufacturers identifying “insufficient supply of materials” as the reason for underutilized plant capacity increased from the first quarter (Q1) of 2021 to Q4 of 2025, with accelerated increases occurring in 2021 and 2022, which is an indicator of a supply chain disruption. U.S. Census Bureau, Quarterly Survey of Plant Capacity Utilization, accessed April 7, 2026, <https://www.census.gov/programs-surveys/qpc/data/tables.html>; and Neil Mehrotra et al., *Retail Inventories and Inflation Dynamics: The Price Margin Channel*.

³⁹ Thomas Bittmann et al., “Short- and Long-Term Drought Impacts on the U.S. Beef Value Chain,” *Environmental Research Letters*, vol. 20 (2025), <https://doi.org/10.1088/1748-9326/ade45d>; and Omid Zamani et al., “The Effect of Avian Influenza Outbreaks on Retail Price Premiums in the United States Poultry Market,” *Poultry Science*, vol. 103, no. 10 (October 2024), <https://doi.org/10.1016/j.psj.2024.104102>.

⁴⁰ For discussion of the difference between a dollar markup and markup percent, see “Retail Prices: Markups.”

dollar markup can contribute to higher retail profits regardless of whether markup percentages increase.

Several agricultural supply chain disruptions started in 2021 and 2022. In part due to droughts,⁴¹ beef cow herd sizes decreased at successively accelerating annual rates from 2021 through 2023, and decreases continued into 2026.⁴² In 2025, live beef cow inventories reached the lowest level since 1961.⁴³ Around the same time as the beef supply chain disruptions, starting in early-2022, culling of poultry began increasing at accelerating rates in response to an avian flu,⁴⁴ which reduced the supply of poultry. These disruptions contributed to grocery stores facing higher supplier prices and less inventory available for meats.⁴⁵

In response to these supply chain disruptions,⁴⁶ as **Figure 3** illustrates, grocery stores generally increased their average retail meat prices by a larger dollar amount than their average supplier price increases but not by a larger percent change. Generally, dollar markups increasing at a slower percent rate than supplier prices means that the markup percent decreased.⁴⁷ Similarly, when supplier prices increase at a higher percent rate than consumer prices, it means the markup percent decreased but not necessarily the dollar markup.

As a discrete, hypothetical example of how a dollar markup can increase while the percent markup does not, consider a supermarket that buys one pound of ground beef for \$3 and sells it to a consumer for \$4 in January 2021; the dollar markup would be \$1, and the markup percent would be 33.3% ($\$1 \div \3). Then, in January 2023, if the supermarket buys one pound of ground beef for \$4.25 and sells it to a consumer for \$5.50, the dollar markup would be \$1.25, and the markup percent would be 29.4% ($\$1.25 \div \4.25). Although the dollar markup increased by 25% in this example, the markup percent decreased by 11.7%. Additionally, in this example, the dollar markup increased although the consumer price percent increase of 37.5% was smaller than the supplier percent increase of 41.7%.

This example underscores the distinction between dollar markups and percent markups and how dollar markups can increase when percent markups remain constant or decrease, which might inform certain policy considerations. The effects of higher meat dollar markups during these

⁴¹ R. Aaron Hrozencik, “The Stocking Impact and Financial-Climate Risk of the Livestock Forage Disaster Program,” Economic Research Service, Report no. 329 (January 2024), https://ers.usda.gov/sites/default/files/_laserfiche/publications/108372/ERR-329.pdf?v=57904.

⁴² Bernt Nelson, “Smaller Cattle Herd Creates Market Volatility,” American Farm Bureau Federation, February 10, 2026, <https://www.fb.org/market-intel/smaller-cattle-herd-creates-market-volatility>; U.S. Department of Agriculture (USDA) National Agricultural Statistics Service (NASS), “United States Cattle Inventory Report,” news release, July 25, 2025, <https://web.archive.org/web/20250725203702/https://www.nass.usda.gov/Newsroom/2025/07-25-2025.php>; and USDA NASS, *Quick Stats*, accessed April 7, 2026, <https://quickstats.nass.usda.gov/results/81B2426E-08E0-3871-B132-06D93D6C72A2>.

⁴³ USDA NASS, *Quick Stats*.

⁴⁴ USDA Economic Research Service (ERS), *Livestock, Dairy, and Poultry Outlook: May 2022*, May 18, 2022, https://ers.usda.gov/sites/default/files/_laserfiche/outlooks/103952/LDP-M-335.pdf?v=80650; USDA, “Confirmations of Highly Pathogenic Avian Influenza in Commercial and Backyard Flocks,” Animal and Plant Health Inspection Service, <https://www.aphis.usda.gov/livestock-poultry-disease/avian/avian-influenza/hpai-detections/commercial-backyard-flocks>; and CRS Report R48518, *The Highly Pathogenic Avian Influenza (HPAI) Outbreak in Poultry, 2022-Present*, by Christine Whitt.

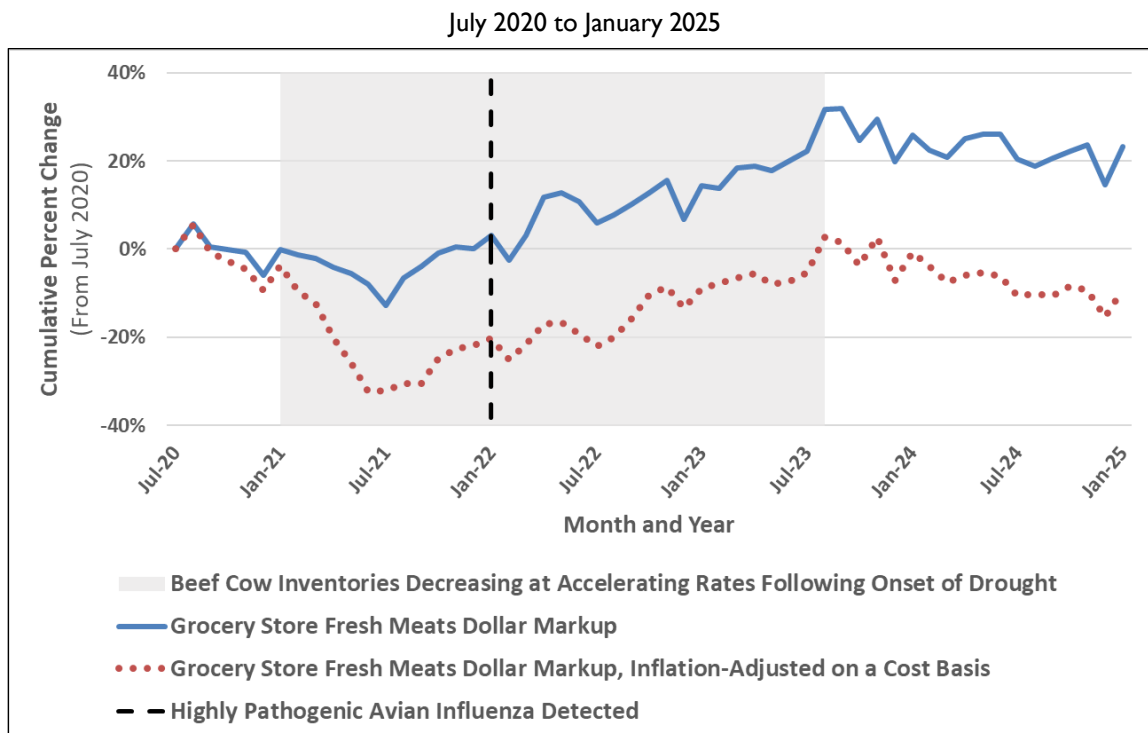
⁴⁵ Bittmann et al., “Short-and Long-Term Drought Impacts on the U.S. Beef Value Chain”; and USDA ERS, *Livestock, Dairy, and Poultry Outlook: May 2022*. For more discussion of beef cow inventories and prices, see CRS Insight IN12687, *Argentine Beef Import Quota Expansion*, by Benjamin Tsui and Christine Whitt.

⁴⁶ Bittmann et al., “Short-and Long-Term Drought Impacts on the U.S. Beef Value Chain”; and Zamani et al., “The Effect of Avian Influenza Outbreaks on Retail Price Premiums in the United States Poultry Market.”

⁴⁷ An exception would be when dollar markups are negative in the initial period.

supply chain disruptions on net profits for a grocery retailer depend on the retailer's other costs (e.g., rent, utilities, wages) and its total sales volume.

Figure 3. Supermarket and Grocery Store Fresh Meats During Selected Agricultural Shortages



Source: CRS with data from U.S. Bureau of Labor Statistics (BLS) and U.S. Department of Agriculture.

Notes: Grocery Store Fresh Meats Dollar Markup is a BLS price index that measures the change to the dollar markup (price – cost of goods sold). Grocery Store Fresh Meats Dollar Markup, Inflation-Adjusted on Cost Basis is the Grocery Store Fresh Meats Dollar Markup adjusted for inflation by the Producer Price Index (PPI) for Meats, Poultry, and Fish. The inflation-adjusted measure indicates whether dollar markups grew at a faster or slower rate than supplier price changes. This chart begins in July 2020 to exclude certain COVID-19-related volatility that occurred in the first half of 2020 that was unrelated to the drought that began in 2020 and to include the effects of the drought and the Highly Pathogenic Avian Influenza. January 2025 is the ending date because it generally excludes certain tariff changes that occurred in 2025.

Import Volumes and Tariffs in 2025

Tariff increases in 2025 disrupted retail supply chains.⁴⁸ This disruption was widely anticipated by businesses,⁴⁹ including some retailers,⁵⁰ and generally contributed to higher costs and lower

⁴⁸ For example, see Marina Azzimonti et al., “Tariffs: Estimating the Economic Impact of the 2025 Measures and Proposals,” Economic Brief, Federal Reserve Bank of Richmond, April 2025, https://www.richmondfed.org/publications/research/economic_brief/2025/eb_25-12. For discussion of tariff increases during 2025 and the products that were affected, see CRS Report R48549, *Presidential 2025 Tariff Actions: Timeline and Status*, by Keigh E. Hammond and William F. Burkhardt.

⁴⁹ Philippe Andrade et al., “Who Will Pay for Tariffs? Businesses’ Expectations about Costs and Prices,” Federal Reserve Bank of Boston, *Current Policy Perspectives*, vol. 25, no. 13 (September 2025), <https://www.bostonfed.org/publications/current-policy-perspectives/2025/who-pays-for-tariffs.aspx>.

⁵⁰ Russell Mills et al., “SOURCE Insights: An Initial Look at the Anticipated Impact of Tariffs on Fourth District (continued...)”

inventories for retailers of the goods affected by the tariff increases. Retailer behavior during this supply chain disruption highlights the role of inventories in retail markups for a range of retailer types and highlights how retailers might respond when they anticipate a disruption.

Changes in import data reported by the Bureau of Economic Analysis (BEA) suggest that retailers adjusted their inventories before and after tariff increases in 2025.⁵¹ According to BEA, quarterly real imports of consumer goods (excluding automotive and food)⁵² increased by 25% from the fourth quarter (Q4) of 2024 to Q1 of 2025.⁵³ This increase in imports was likely due to retailers acquiring inventories before tariff increases took effect.⁵⁴ Subsequently, as some tariff increases took effect in Q2 of 2025,⁵⁵ BEA's estimate of quarterly inflation-adjusted consumer goods imports decreased by 26% from Q1 to Q2 of 2025,⁵⁶ then decreased by 8% from Q2 to Q3 of 2025, and then by 6% from Q3 to Q4 of 2025.⁵⁷ In Q4 of 2025, BEA's quarterly estimate of these imports was the lowest since Q3 of 2020,⁵⁸ which was a quarter coinciding with the COVID-19 pandemic supply chain disruptions. According to BEA, the categories listed under consumer goods with import volumes that decreased on an annual basis from 2024 to 2025 were (1) furniture and household items; (2) apparel, footwear, and household goods; (3) household and kitchen appliances; (4) home entertainment and recreational equipment and materials; (5) other durable consumer goods; and (6) other nondurable consumer goods.

These import decreases were not accompanied by a decrease in retail sales,⁵⁹ suggesting retailers drew down inventories to maintain sales. Seasonally adjusted inventories relative to sales decreased for retailers across a range of product types from Q4 of 2024 to Q4 of 2025.⁶⁰ Some businesses and business associations have reported that sudden decreases in imports can generally contribute to potential inventory shortages.⁶¹ In November 2025, the founder of a consumer

Businesses,” Federal Reserve Bank of Cleveland, February 2025, <https://www.clevelandfed.org/publications/cleveland-fed-district-data-brief/2025/cfddb-20250422-sorce-insights-anticipated-impact-of-tariffs>; and T. Woods, “3 Major Retailers that Will Raise Prices Immediately Under Trump—Tariffs Play Key Role,” *Yahoo!Finance*, January 3, 2025, <https://finance.yahoo.com/news/3-major-retailers-raise-prices-150119217.html>.

⁵¹ The Bureau of Economic Analysis (BEA) provides a measure of real imports, which is adjusted for both inflation and seasonal trends.

⁵² The category of data published by the BEA is “consumer goods, except food and automotive”; this is a category of data that is inflation-adjusted and seasonally adjusted by BEA.

⁵³ Largest percent increase on record going back to Q1 2007, which is when this data series became available; see BEA, “Table 4.2.6B Real Exports and Imports of Goods and Services by Type of Product, Chained Dollars: Quarterly,” accessed on February 26, 2025.

⁵⁴ Retail Dive Staff, “3 Ways Tariffs are Impacting Retailers,” *RetailDive*, August 28, 2025, <https://www.retaildive.com/news/3-ways-tariffs-are-impacting-retailers/758864/>.

⁵⁵ For discussion of tariff increases during 2025, see CRS Report R48549, *Presidential 2025 Tariff Actions: Timeline and Status*, by Keigh E. Hammond and William F. Burkhart.

⁵⁶ Largest percent decrease on record going back to Q1 of 2007, which is when this data series became available; see BEA, “Table 4.2.6B Real Exports and Imports of Goods and Services by Type of Product, Chained Dollars: Quarterly.”

⁵⁷ BEA, “Table 4.2.6B Real Exports and Imports of Goods and Services by Type of Product, Chained Dollars: Quarterly.”

⁵⁸ BEA, “Table 4.2.6B Real Exports and Imports of Goods and Services by Type of Product, Chained Dollars: Quarterly.”

⁵⁹ CRS analysis of retail sales data from Census Bureau, *Time Series / Trend Charts*, accessed April 1, 2026, <https://www.census.gov/econ/currentdata/>.

⁶⁰ CRS analysis of data in BEA, “Table 3BU. Real Inventory-Sales Ratios for Manufacturing and Trade, Seasonally Adjusted,” accessed March 13, 2026.

⁶¹ Fin Daniel Gómez and Richard Escobedo, “Walmart, Target CEOs Privately Warned Trump Tariffs Could Lead to Empty Shelves Soon,” *CBSNews*, April 23, 2025, [https://www.cbsnews.com/news/walmart-target-trump-tariff-supply-\(continued...\)](https://www.cbsnews.com/news/walmart-target-trump-tariff-supply-(continued...))

electronics retailer reportedly stated, “we have sold down to extremely low stock levels—we probably have about 10% of the inventory we need.”⁶²

Some retailers, knowing that their competitors would also likely import fewer goods and thus have fewer inventories, may have increased their markups.⁶³ Some research suggests that when supply shocks are widely anticipated and known by all market participants—as is the case with the 2025 tariff increases—retailers might increase prices to a greater degree and at a faster rate compared with an unexpected shock.⁶⁴ According to Bureau of Labor Statistics (BLS) data, dollar markups at retailers of certain types of consumer goods (e.g., electronics, apparel, and furniture) increased at accelerated rates in 2025 compared with 2024 and prior years.⁶⁵ In some cases, the types of consumer goods with markups that increased at accelerated rates in 2025 also experienced import volume decreases in 2025. For example, from December 2024 to December 2025, in-store dollar markups of “furniture retailers” increased by 8% after decreasing the prior year.⁶⁶ As another example, in 2025, in-store dollar markups of “hobby, toy, and game retailers” increased by 13% after averaging an annualized change of 0% in the prior four years. Not all retailer types had increases in markups in 2025.

Selected Policy Options for Congress

Some Members of Congress have expressed concern about retailers’ price increases and perceptions of price gouging, particularly during supply chain disruptions. These concerns tend to be focused on retailers of certain goods that are experiencing increases in price or decreases in availability. Should Congress consider policy options to affect such behavior, Congress might evaluate how certain retailers and other market participants might respond to these policies. Retailers tend to respond to policy changes in manners that allow them to maximize their profits, which might include responses that are contrary to the goal of the policy.

This section provides some considerations were Congress to (1) continue oversight of retailers through existing laws, (2) consider legislation to affect price gouging, and/or (3) consider legislation to strengthen supply chain resiliency.

Continued Oversight

Congress might choose not to take legislative action and continue monitoring how retailers respond to public perceptions of their behavior and other market conditions, such as consumer demand for their products, competitive pressure from other retailers, and changes in their supplier network during supply chain disruptions. For example, a retailer might choose not to increase

chains/; and Lori Ann LaRocoo, “The Trade War’s Wave of Retail Shortages Will Hit U.S. Consumers in Stages. Here’s When,” *CNBC*, April 24, 2025, <https://www.cnbc.com/2025/04/24/unsustainable-china-trade-war-retail-shortage-warnings.html>.

⁶² Deborah Mary Sophia and Savyata Mishra, “Small US Retailers Face Holiday Supply Chaos Due to Trump Tariffs,” *Reuters*, November 26, 2025, <https://www.reuters.com/business/retail-consumer/small-us-retailers-face-holiday-supply-chaos-due-trump-tariffs-2025-11-26/>.

⁶³ For more information on the retail inventory-markup relationship, see Neil Mehrotra et al., *Retail Inventories and Inflation Dynamics: The Price Margin Channel*, International Finance Discussion Papers no. 1424, October 2025, <https://doi.org/10.17016/IFDP.2025.1424>.

⁶⁴ Alvarez-Blaser et al., *Markups and Cost Pass-through Along the Supply Chain*; Isabella M. Weber and Evan Wasner, “Sellers’ Inflation, Profits and Conflict: Why Can Large Firms Hike Prices in an Emergency?,” *Review of Keynesian Economics*, vol. 2, no. 2 (April 14, 2023), p. 183, <https://doi.org/10.4337/roke.2023.02.05>.

⁶⁵ CRS analysis of BLS retail trade price indexes.

⁶⁶ CRS calculations based on BLS retail trade price indexes.

prices when demand is high because of concerns that its customers would choose to patronize a competing retailer. Alternatively, a retailer might choose to vary its prices with demand, which could contribute to higher prices in some cases and lower prices in others. Congress has exercised oversight of such behavior by, for example, evaluating it in hearings or sending letters to retailers, some of which might be publicly available.⁶⁷

Congress might consider using its oversight authority of federal agencies to review their enforcement of existing federal statutes that may affect retailer pricing behavior during supply chain disruptions. For example, the Federal Trade Commission (FTC), Department of Justice (DOJ), and Consumer Financial Protection Bureau published a joint press release warning consumers about potential scams and price gouging in the wake of hurricanes and other natural disasters.⁶⁸ The FTC also released a report on grocery store supply chain disruptions during the COVID-19 pandemic, which provided insights on how market structure and business conduct differed across grocery retailers, wholesalers, and producers.⁶⁹ DOJ has taken action against individuals for violating the Defense Production Act of 1950 (DPA, 50 U.S.C. §§4501 et seq.), as discussed below.

Defense Production Act of 1950

The DPA was enacted during the Korean War to provide the President with greater executive powers to control defense production and aspects of industrial and economic policy; it has been used primarily in the context of national defense.⁷⁰ Section 102 of the DPA prohibits the accumulation of materials that the President has designated as scarce “in excess of the reasonable demands of business, personal, or home consumption” or for the purpose of resale of products “at prices in excess of prevailing market prices.”⁷¹

The first Trump Administration and the Biden Administration used the authority provided by Section 102 of the DPA during the COVID-19 pandemic. President Trump used this authority to instruct the Secretary of Health and Human Services, in consultation with the Administrator of the Federal Emergency Management Agency, to prevent hoarding of certain health and medical products, including personal protective equipment.⁷² Subsequently, DOJ created a COVID-19

⁶⁷ For example, see U.S. Congress, House Committee on Energy and Commerce, Subcommittee on Consumer Protection and Commerce, *Pandemic Profiteers: Legislation to Stop Corporate Price Gouging*, hearing, 117th Cong., 2nd sess., February 2, 2022, <https://docs.house.gov/Committee/Calendar/ByEvent.aspx?EventID=114360>; U.S. Congress, Senate Committee on Banking, Housing, and Urban Affairs, *The Semiannual Monetary Policy Report to the Congress*, hearing on the Oversight on the Monetary Policy Report to Congress Pursuant to the Full Employment and Balanced Growth Act of 1978, 118th Cong., 1st sess., March 7, 2023, S.Hrg. 118-205; and U.S. Congress, Senate Special Committee on Aging, *Making Washington Work for Seniors: Fighting to End Inflation and Achieve Fiscal Sanity*, hearing, 119th Cong., 1st sess., January 29, 2025, <https://www.congress.gov/event/119th-congress/senate-event/LC74258/text>.

⁶⁸ FTC, “FTC, DOJ and CFPB Warn Consumers About Potential Scams and Price Gouging in the Wake of Hurricanes and other Natural Disasters,” press release, October 9, 2024, <https://www.ftc.gov/news-events/news/press-releases/2024/10/ftc-doj-cfpb-warn-consumers-about-potential-scams-price-gouging-wake-hurricanes-other-natural>.

⁶⁹ FTC, *Feeding America in a Time of Crisis: The United States Grocery Supply Chain and the COVID-19 Pandemic*, March 21, 2024, <https://www.ftc.gov/reports/feeding-america-time-crisis-ftc-staff-report-united-states-grocery-supply-chain-covid-19-pandemic>.

⁷⁰ For more information on the Defense Production Act of 1950, see CRS Report R43767, *The Defense Production Act of 1950: History, Authorities, and Considerations for Congress*, by Alexandra G. Neenan.

⁷¹ 50 U.S.C. §4512; and see CRS Report R43767, *The Defense Production Act of 1950: History, Authorities, and Considerations for Congress*, by Alexandra G. Neenan.

⁷² Executive Order 13910 of March 23, 2020, “Preventing Hoarding of Health and Medical Resources to Respond to the Spread of COVID-19,” 85 *Federal Register* 17001, March 26, 2020, <https://www.federalregister.gov/documents/2020/03/26/2020-06478/preventing-hoarding-of-health-and-medical-resources-to-respond-to-the-spread-of-covid-19>.

Hoarding and Price Gouging Task Force to “pursue bad actors who amass critical supplies either far beyond what they could use or for the purpose of profiteering.”⁷³ The Biden Administration extended this scarcity designation,⁷⁴ and DOJ indicted several individuals in multiple cases for violating Section 102 of the DPA. Section 102 does not explicitly prohibit price gouging, but DOJ used the term to describe its indictments in press releases.⁷⁵ To the extent that Section 102 affects price gouging, it would be limited to the context of prohibiting hoarding of materials designated as scarce by the President for the purpose of price gouging.

As part of its oversight activities, Congress could ask the President to designate certain products as scarce and use the President’s authority under Section 102 of the DPA to prevent retailers from hoarding and reselling these products at an elevated price. Congress also could amend the DPA to explicitly address price gouging as proposed in some bills discussed in the following section.

Retailer Price Gouging

Some Members of the 119th Congress have introduced bills that would prohibit price gouging; the majority of these bills include provisions on supply chain disruptions.⁷⁶ For example, the Cracking Down on Price Gouging Act (H.R. 4720) would amend Section 102 of the DPA to include “price gouging” and presume that a violation has occurred if prices increase by a certain percent after a shortage caused by a supply chain disruption. Similarly, the Price Gouging Prevention Acts of 2025 (H.R. 4528 and S. 2321) would presume that a violation has occurred if sales at a “grossly excessive price” occur during a “market shock”⁷⁷ and other conditions are met. As another example, the Stop Disaster Price Gouging Act (H.R. 2427) would prohibit price gouging for certain goods after the date on which the President declares a major disaster or emergency, which are events that typically include or cause supply chain disruptions.

No federal laws or regulations explicitly prohibit price gouging. According to the National Conference of State Legislatures, as of January 2025, 39 states, the District of Columbia, and some U.S. territories have statutes or regulations that prohibit price gouging.⁷⁸ Most of these state laws and regulations prohibit price gouging in response to a disaster or state of emergency,⁷⁹ in

⁷³ Department of Justice, “Combating Price Gouging & Hoarding,” March 23, 2022, <https://www.justice.gov/coronavirus/combatingpricegouginghoarding>.

⁷⁴ Executive Order 14001 of January 21, 2021, “A Sustainable Public Health Supply Chain,” 86 *Federal Register* 7219, January 26, 2021; and Department of Health and Human Services, “Extension of Designation of Scarce Materials or Threatened Materials Subject to COVID-19 Hoarding Prevention Measures; Extension of Effective Date with Modifications,” 86 *Federal Register* 35810, July 7, 2021.

⁷⁵ For example, see U.S. Attorney’s Office, District of Puerto Rico, “Individual Indicted for Price Gouging,” press release, April 29, 2021, <https://www.justice.gov/usao-pr/pr/individual-indicted-price-gouging>.

⁷⁶ The price gouging bills that do not include supply chain disruption provisions tend to focus on specific products, such as medications or groceries.

⁷⁷ *Market shock* is a term that commonly includes supply chain disruptions.

⁷⁸ National Conference of State Legislatures, “Price Gouging State Statutes,” updated January 21, 2025, <https://www.ncsl.org/financial-services/price-gouging-state-statutes>. For more information on selected examples of state laws on price gouging, see CRS Report R47072, *Gasoline Price Increases: Federal and State Authority to Limit “Price Gouging”*, by Adam Vann.

⁷⁹ For example, see Conn. Gen. Stat. §29-319, https://www.cga.ct.gov/2025/pub/chap_541.htm#sec_29-319; and Ind. Code §§4-6-9.1-1 et seq., <https://iga.in.gov/laws/2025/ic/titles/4#4-6-9.1-1>.

response to market disruptions,⁸⁰ or at all times;⁸¹ some are applicable for specific consumer products, such as fuel or milk.⁸²

A fundamental question for legislation on price gouging is the circumstances or situations in which a price increase is considered excessive. In the 119th Congress, some bills would prohibit a certain percentage increase in price over a specified time period in certain cases.⁸³ Other bills would prohibit an excessive increase in prices, direct the FTC to promulgate regulations to define excessive, and provide a percentage increase for the FTC to consider in its definition.⁸⁴ Both sets of bills include an exception or affirmative defense if the seller increases prices in response to an increase in costs. Congress could consider specifying a maximum dollar or percent markup in legislation⁸⁵ because the markup explains the relationship between the price at which the retailer sells a good and its acquisition cost.⁸⁶ Specifying a maximum in terms of a markup percent might result in a more flexible policy that would allow retailers to adjust their markup based on the magnitude of their costs but might not address price increases where a retailer is maintaining a constant markup percent. Specifying the maximum markup in terms of dollars might account for price increases where the markup percent is constant, but the inflation-adjusted size of the markup would decrease over time unless Congress were to adjust the maximum dollar markup for inflation. Congress might also consider using different markups for different types of retailers,⁸⁷ which might accommodate the fact that retailers of different types of goods tend to have different markups.

How Congress chooses to address the definition of excessive or price gouging in legislation, if Congress chooses to address it, might have different tradeoffs. Legislation that would direct a federal agency to define the term might provide agency flexibility to adapt to changing market conditions, such as how suppliers are responding to a supply chain disruption. Alternatively, legislation that would explicitly define excessive or price gouging in statute could provide retailers more clarity on how to comply with the law but might not allow regulating agencies to adapt to changing market conditions or the economy over time.

Congress might consider the scope of a price gouging prohibition; legislation could apply in certain contexts, such as supply chain disruptions, or at all times. Legislation in which a proposed prohibition focuses on supply disruptions might target instances where retail markup increases do not generally result in suppliers increasing production because supply is constrained. Such a scope might also require regulators and retailers to identify when a supply chain disruption is occurring and when the law would apply.

⁸⁰ For example, see Me. Rev. Stat. Ann. tit. 10 §1105, <https://www.mainelegislature.org/legis/statutes/10/title10sec1105.html>; and N.Y. General Business Law §396-r, <https://www.nysenate.gov/legislation/laws/GBS/396-R>.

⁸¹ For example, see Mich. Comp. laws 445.903, <https://www.legislature.mi.gov/Laws/MCL?objectName=MCL-445-903>.

⁸² For example, see Conn. Gen. Stat. §29-319, https://www.cga.ct.gov/2025/pub/chap_541.htm#sec_29-319; Ind. Code §4-6-9.1-1 et seq., <https://iga.in.gov/laws/2025/ic/titles/4#4-6-9.1-1>; and N.Y. General Business Law §396-rr, <https://www.nysenate.gov/legislation/laws/GBS/396-RR>.

⁸³ See Cracking Down on Price Gouging Act (H.R. 4720) and Stop Disaster Price Gouging Act (H.R. 2427).

⁸⁴ See Price Gouging Prevention Acts of 2025 (H.R. 4528 and S. 2321) and Stop Price Gouging in Grocery Stores Act of 2025 (H.R. 4966).

⁸⁵ For example, similar to the language in §2(a)(1)(B) of the Stop Disaster Price Gouging Act (H.R. 2427).

⁸⁶ See “Retailers and Supply Chain Disruptions.”

⁸⁷ For example, similar to what is accounted for by the language contained in §2(a)(2)(A)(i)(II) of H.R. 2427.

Congress also could limit the scope of a prohibition to, for example, certain goods that tend to be in demand during supply chain disruptions,⁸⁸ such as groceries or fuel, or apply it to all goods. Limiting a prohibition to certain goods might focus policymaking on areas where consumer concerns around fairness and access are more acute than others. A potential bill could define or list certain “essential goods,” but the types of goods that consumers perceive to be essential might vary, change, and include goods that are not covered by the law. Similarly, when a supply chain disruption begins, its duration is typically unknown; the length of a supply chain disruption can affect which goods are perceived to be essential by consumers.⁸⁹ Congress, regulators, or the courts would need to determine which goods are considered essential and thus covered by the law.

Congress also might consider how retailers operating in the United States may respond if they were to face explicit restrictions on the prices they charge, particularly during a supply chain disruption. The immediate effect might be lower consumer prices and retail profits for a period, but there might be other longer-term effects. For example, lower retailer profits might result in store closures or lower retailer investments in assets such as financial stocks, logistical infrastructure, excess inventory buffers, or upstream supply chain infrastructure.

A restriction on prices that retailers charge might also incentivize the development of less-regulated underground resale markets, particularly if supply of the product is constrained by a disruption. For example, if consumers are willing to pay more than the capped price, someone might acquire and hoard the good and then resell it to other consumers in an undocumented market. Generally, less-regulated markets might be less likely to comply with a price-gouging law and might be more susceptible to other illegal or unethical commercial behavior.

It is unclear how retailers would choose to allocate scarce goods if they were unable to adjust prices above a threshold. Although consumers might pay lower prices than they would without a price gouging prohibition in place, consumers might encounter other allocation systems that could raise other potential congressional concerns. With reduced pricing flexibility, retailers might sell the goods to consumers who arrive first, which could contribute to longer lines.⁹⁰ Retailers also might prioritize certain consumers, such as repeat customers, customers with social or political capital, or customers who buy memberships with the retailer. The relative value of prioritizing certain consumers might be higher if retailers were unable to sell their goods at prices that maximize revenues. Congress also may choose not to pursue legislation and to defer to market forces and consumer responses to address price gouging.

Supply Chain Resiliency

Congress might consider addressing underlying supply chain conditions to reduce uncertainty and minimize disruptions, which may reduce incidences of short-term scarcity-driven retail price increases. The supplier network available to retailers can affect their ability to acquire inventories, which can affect their pricing behavior, particularly during disruptions.⁹¹ In some cases,

⁸⁸ Consumers may find it difficult to abstain from certain goods for any amount of time, even when prices increase.

⁸⁹ For example, consumers might be able to abstain from purchasing a new vehicle for a shorter time period but find it more difficult to abstain from purchasing a new vehicle for a longer period of time.

⁹⁰ Yoram Barzel, “A Theory of Rationing by Waiting,” *The Journal of Law & Economics*, vol. 17, no. 1 (April 1974), p. 73, <https://doi.org/10.1086/466785>; and H. E. Frech III and William C. Lee, “The Welfare Cost of Rationing-By-Queuing Across Markets: Theory and Estimates from the U.S. Gasoline Crises,” *The Quarterly Journal of Economics*, vol. 102, no. 1 (February 1987), p. 97, <https://doi.org/10.2307/1884682>.

⁹¹ See “Retailers and Supply Chain Disruptions.”

increasing supply chain resiliency to address short-term disruption-driven price increases may contribute to longer-term structural cost increases, which may be passed on to consumers.

Congress might consider incentivizing diversified supplier networks for certain goods to affect supply chain resiliency. Some consumer goods are mostly manufactured, or depend on components that are mostly manufactured, outside of the United States. Globalized supply chains generally have provided U.S. consumers with a more diverse selection of goods, typically resulting in lower prices during stable economic periods, but also may contribute to import reliance and exposure to global supply chain disruptions.⁹² Domestic production also can be vulnerable to supply chain disruptions under certain market conditions, such as when most of the production is conducted by a few firms and when it is difficult for new firms to enter the market.⁹³ One way Congress might help diversify supplier networks and build supply chain resiliency is with policies that support domestic production capacity. These policies could result in decreased incidences of short-term scarcity driven price increases but may also contribute to longer-term structural cost increases for the private sector because producers in the United States sometimes have higher costs than those located in other countries.

Congress has sometimes sought to ease the tension between supply chain resiliency and private sector costs by subsidizing certain industries (e.g., by providing production or investment tax credits while allowing competition from imports).⁹⁴ These types of policies may reduce the likelihood of shortages and help diversify supply chains. They could also contribute to countries retaliating against each other with increases in their respective subsidies.⁹⁵ Additionally, production or investment tax credits could decrease federal government revenues.⁹⁶ Depending on how the subsidies are specified, they also may raise potential concerns regarding U.S. commitments to certain trade agreements.⁹⁷

Congress might consider identifying industries and consumer goods for which it determines supply chain resiliency potentially is needed to help prevent shortages and price fluctuations for these items during supply chain disruptions. A Promoting Resilient Supply Chains Act of 2025 (PRSCA; H.R. 2444 as passed by the House; S. 257 as passed by the Senate) would direct the Assistant Secretary of Commerce for Industry and Analysis to lead and establish an intergovernmental working group to develop plans and analyses to increase U.S. supply chain resiliency for industries and goods critical to the economic or national security of the United States. The bills would direct the Assistant Secretary to identify which industries, supply chains, and goods are critical to the economic security of the United States. The bills would consider both domestic and international components of the supply chain. The Senate and the House passed their respective versions of PRSCA, which differ regarding the role of the Department of Homeland Security (DHS). Each chamber of Congress might consider the role of the DHS in

⁹² For analysis of a selection of these disruptions, see “Retailers and Supply Chain Disruptions.”

⁹³ For example, the supply chain disruptions in the domestic production of infant formula (see FTC, *Market Factors Relevant to Infant Formula Supply Disruptions 2022*, March 13, 2024, https://www.ftc.gov/system/files/ftc_gov/pdf/infant_formula_report_final.pdf).

⁹⁴ For example, see the Infrastructure Investment and Jobs Act (P.L. 117-58), the CHIPS Act of 2022 (Division A of P.L. 117-167), P.L. 117-169 (the FY2022 budget reconciliation law, commonly referred to as the Inflation Reduction Act), and P.L. 119-21 (the FY2025 budget reconciliation law, commonly referred to as the One Big Beautiful Bill Act).

⁹⁵ Elizabeth Van Heuvelen, “Subsidy Wars,” *Finance & Development Magazine*, IMF, June 2023, <https://www.imf.org/en/Publications/fandd/issues/2023/06/B2B-subsidy-wars-elizabeth-van-heuvelen>.

⁹⁶ Subsidies that are government expenditures would increase government expenditures, and subsidies that reduce tax obligations would reduce government revenues.

⁹⁷ For list of trade agreements, see CRS Report R45846, *Congressional Votes on Free Trade Agreements and Trade Promotion Authority*, by Keigh E. Hammond.

supply chain resiliency and whether its potential role is appropriate. The Congressional Budget Office estimates it would cost less than \$500,000 to execute the activities proposed in the PRSCA bills.⁹⁸

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⁹⁸ Congressional Budget Office, *Cost Estimate*, February 19, 2025, <https://www.cbo.gov/system/files/2025-02/s0257.pdf>.



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U.S. Department of Agriculture (USDA) Horticulture Programs: Action in the 119th Congress

The farm bill generally contains reauthorizations, amendments, and new programs that impact specialty crops, organic agriculture, local and regional food programs, hemp, and pest and disease management. Many of these programs are contained in the horticulture title, which was first added to a farm bill in the Food, Conservation, and Energy Act of 2008 (2008 farm bill; P.L. 110-234). The 2008 farm bill amended programs that were introduced in the Specialty Crop Competitiveness Act of 2004 (P.L. 108-465) (such as the Specialty Crop Block Grant Program), created new programs that primarily benefitted horticulture (such as the Plant Pest and Disease Management and Disaster Prevention Program), and contained support for the National Organic Program (NOP). In subsequent farm bills, the Agricultural Act of 2014 (2014 farm bill; P.L. 113-79) and the Agriculture Improvement Act of 2018 (2018 farm bill; P.L. 115-334), the horticulture title expanded to include support for local and urban agriculture and hemp production. Farm bill support for horticultural crops is not limited to the horticulture title; programs in other titles, such as the research and trade titles, also provide support for these crops.

The most recent farm bill, the 2018 farm bill, expired in 2023. It has been extended three times for a year at a time: in November 2023 to cover FY2024 and crop year 2024 (P.L. 118-22, Division B, §102); in December 2024 to cover FY2025 and crop year 2025 (P.L. 118-158, Division D, §4101); and in November 2025 to cover FY2026 and crop year 2026 (P.L. 119-37, Division E, §5002).

The 119th Congress passed two laws that impact horticulture programs and provisions from the 2018 farm bill. These two laws are the FY2025 budget reconciliation law (P.L. 119-21), which amended certain existing horticulture programs, and the Continuing Appropriations, Agriculture, Legislative Branch, Military Construction and Veterans Affairs, and Extensions Act, 2026 (P.L. 119-37, Division B, §781), which amended the federal definition of *hemp* and extended the 2018 farm bill through FY2026.

P.L. 119-21 provided additional funding for certain mandatory spending programs in the horticulture title. The law did not reauthorize all expired or expiring programs from the 2018 farm bill. The law impacted horticulture programs with and without budget baseline. Programs with baseline that received increased funding in P.L. 119-21 include the Specialty Crop Research Initiative, the Plant Pest and Disease Management and Disaster Prevention Program, and the Specialty Crop Block Grant Program. Horticulture programs without baseline that received funding from P.L. 119-21 include support programs for NOP; the Emergency Citrus Disease Research and Development Trust Fund; the Multiple Crop and Pesticide Use Survey; and the Urban, Indoor, and Other Emerging Agricultural Production, Research, Education, and Extension Initiative.

P.L. 119-37 amended the federal definition of hemp that was established in the 2018 farm bill. That prior definition allowed agricultural production and processing of hemp and hemp-derived products to fall outside of restrictions in the Controlled Substances Act (21 U.S.C. §§801-904) that otherwise affect cannabis. The new definition defines hemp on the basis of a total tetrahydrocannabinol (THC) concentration of 0.3% on a dry weight basis rather than only delta-9 THC, while making explicit inclusions and exclusions.

On February 13, 2026, Representative Glenn “GT” Thompson, chairman of the House Committee on Agriculture, introduced a farm bill, the Farm, Food, and National Security Act of 2026 (H.R. 7567), which contains reauthorizations and amendments to horticulture programs. The bill was voted out of committee and ordered to be reported on March 4, 2026. On April 30, 2026, the bill was passed by the House. Some other Members of Congress also have introduced legislation that would impact horticulture programs.

In addition to the amendments to horticulture programs in P.L. 119-21 and P.L. 119-37, Congress may consider reauthorizing the program authority for existing horticulture programs that receive mandatory spending or reauthorizing programs that receive discretionary appropriations. Congress also could consider amending, expanding, or terminating existing horticulture programs and provisions related to hemp, specialty crops, local and regional food systems, and organic agriculture. Additionally, Congress could create new programs impacting these areas or take no action on horticulture programs.

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Introduction

For nearly a century, Congress has passed farm bills, which are omnibus, multiyear laws that govern an array of agricultural and food programs.¹ Since 2008, farm bills have contained a horticulture title that reauthorizes, amends, and authorizes new programs that impact specialty crops, organic agriculture, local and regional food systems, hemp, and pest and disease management.² Areas covered under the horticulture title also may receive support from programs and authorizations in other titles, such as the research, trade, commodities, and crop insurance titles.

The Food, Conservation, and Energy Act of 2008 (2008 farm bill; P.L. 110-234) was the first farm bill to contain a horticulture title.³ Its horticulture title consisted of specialty crop programs, such as the Specialty Crop Block Grant Program (SCBGP); new programs that primarily benefitted horticulture, such as the Plant Pest and Disease Management and Disaster Prevention Program; and financial support for the National Organic Program (NOP).⁴ Congress expanded the horticulture title in the next two farm bills, the Agricultural Act of 2014 (2014 farm bill; P.L. 113-79) and the Agriculture Improvement Act of 2018 (2018 farm bill; P.L. 115-334), by including financial support for local and urban agriculture and addressing hemp production.⁵

Congress extended the 2018 farm bill, which expired in 2023, three times for a year at a time.⁶ As of March 2026, the 119th Congress has passed two laws that impact programs and provisions from the horticulture title of the 2018 farm bill. The FY2025 budget reconciliation law (P.L. 119-21) amended a number of existing horticulture programs.⁷ The Continuing Appropriations, Agriculture, Legislative Branch, Military Construction and Veterans Affairs, and Extensions Act, 2026 (P.L. 119-37), provided an extension of the 2018 farm bill through FY2026, provided annual appropriations for agricultural programs through FY2026, and amended the statutory definition of *hemp*.

This report provides an overview of provisions in P.L. 119-21 and P.L. 119-37 that have affected farm bill horticulture title programs and related policies. This report does not discuss all farm bill

¹ For background on farm bills, see CRS Report RS22131, *What Is the Farm Bill?*

² Discussion of the horticultural title generally centers around specialty crops, although not all horticultural crops are considered specialty crops (e.g., hemp). The statutory definition of *specialty crop* is “fruits and vegetables, tree nuts, dried fruits, and horticulture and nursery crops (including floriculture)” (7 U.S.C. §1621 note). For information on the U.S. Department of Agriculture’s (USDA’s) interpretation of the definition, see USDA, Agricultural Marketing Service (AMS), “What is a Specialty Crop,” <https://www.ams.usda.gov/services/grants/scbgp/specialty-crop>.

³ For information on past farm bills, see CRS Report R45210, *Farm Bills: Major Legislative Actions, 1965-2024*.

⁴ Many of these programs had been enacted in the Specialty Crop Competitiveness Act of 2004 (P.L. 108-465). For information on specialty crop programs in the farm bill, see CRS Report R48625, *Specialty Crops: Selected Farm Bill Programs*. The National Organic Program (NOP) was created in 1990 through the Organic Foods Production Act in the Food, Agriculture, Conservation, and Trade Act of 1990 (P.L. 101-624). NOP was fully implemented by USDA in 2002. For discussion of USDA support for organic agriculture, see CRS In Focus IF10278, *U.S. Farm Policy: USDA-Certified Organic Production*.

⁵ For information on local food programs in the farm bill, see CRS Report R46538, *Local and Urban Food Systems: Selected Farm Bill and Other Federal Programs*. For more on hemp, see CRS Report R44742, *Defining Hemp: A Fact Sheet*; and CRS In Focus IF13136, *Changes to the Statutory Definition of Hemp and Issues for Congress*.

⁶ Programs may operate on a calendar year, fiscal year, or crop year. A *crop year* is the calendar year in which a commodity is harvested. The 2018 farm bill was extended in November 2023 to cover FY2024 and crop year 2024 (P.L. 118-22, Division B, §102); in December 2024 to cover FY2025 and crop year 2025 (P.L. 118-158, Division D, §4101); and in November 2025 to cover FY2026 and crop year 2026 (P.L. 119-37, Division E, §5002).

⁷ For more on the general impact of P.L. 119-21 on the farm bill, see CRS Report R48775, *The Farm Bill After FY2025 Budget Reconciliation: Frequently Asked Questions*.

provisions that may affect the horticultural sector, and it does not discuss discretionary appropriations in P.L. 119-37.⁸ The report summarizes selected proposed legislation in the 119th Congress relating to areas of the horticulture title, including the Farm, Food, and National Security Act of 2026 (H.R. 7567). Potential issues for Congress relating to horticulture programs and policies are discussed, including potential topics of debate and possible enactment of a future farm bill.

Legislation Enacted in the 119th Congress

This section provides an overview of the provisions enacted in P.L. 119-21 and P.L. 119-37 that impact farm bill horticulture programs and provisions.

FY2025 Budget Reconciliation Law (P.L. 119-21)

The FY2025 budget reconciliation law (P.L. 119-21), enacted in July 2025, made changes to selected mandatory spending for farm bill programs relating to areas in the horticulture title. The law reauthorized some expired or expiring horticulture program provisions from the 2018 farm bill.⁹

Mandatory spending programs may have permanently authorized funding or may receive temporarily authorized funding that expires after a specific fiscal year.¹⁰ Both types of programs may face disruptions to operations as a result of an expired program authority. Some farm bill horticulture programs are considered to have permanently authorized funding (baseline); that is, these programs are assumed to continue, from a Congressional Budget Office (CBO) budgetary perspective, beyond the end of their authorization period. These programs are included in the future government spending projections by CBO, regardless of whether their program authorization expires.¹¹ Some horticulture programs with permanently authorized funding have a separate program authorization (i.e., SCBGP grants to states, the Local Agriculture Marketing Program [LAMP], and the Organic Agriculture Research and Extension Initiative [OREI]).¹² Other programs may not continue in the CBO spending projections because the authorizing and

⁸ The horticulture titles of some farm bills have been used to amend the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA, 7 U.S.C. §§136 et seq), a law that governs pesticide use in agricultural production. This report does not discuss potential amendments to FIFRA or all farm bill provisions that may affect the horticultural sector. For example, exporters of U.S. horticultural crops may benefit from USDA trade-related programs; see CRS In Focus IF12155, *Farm Bill Primer: Trade and Export Promotion Programs*. Additionally, horticultural crop producers may be impacted by changes to the federal crop insurance and disaster assistance programs, as these changes may increase the financial support offered to farmers; see CRS Report R48574, *One Big Beautiful Bill Act (H.R. 1): Title I, Farm Safety Net and Miscellaneous Provisions*.

⁹ For more on the impacts of budget reconciliation on farm bill programs, see CRS Report R48775, *The Farm Bill After FY2025 Budget Reconciliation: Frequently Asked Questions*. For more on budget reconciliation, see CRS Report R48444, *The Reconciliation Process: Frequently Asked Questions*.

¹⁰ Programs with *mandatory spending authority* are authorized for a period of years and have multiyear estimates of projected spending under current law (i.e., *baseline* projections). If legislation proposes policy changes for programs, the proposed changes' effects are evaluated as the additional costs or savings from the proposed provisions (i.e., budgetary *scores* of a bill) relative to the baseline projections.

¹¹ For an overview of budget baseline, see CRS In Focus IF12115, *Farm Bill Primer: Programs Without a Budget Baseline*.

¹² For example, annual mandatory funding for the Local Agriculture Marketing Program (LAMP) is permanently authorized as per 7 U.S.C. §1627c(i)(1), but the authorization to provide grants in the program expires at the end of FY2026, per 7 U.S.C. §1627c(d)(1) and the 2018 farm bill extension in P.L. 119-37.

budget committees did not provide funding past a particular fiscal year, which may lead CBO to assume that they will not continue.¹³

CBO estimated that the horticulture section of P.L. 119-21 (§10606) would increase spending by \$334 million from FY2025 to FY2034 compared with the (January 2025) baseline projections for the same budget window.¹⁴ This scoring estimate reflects the changes in Section 10106; it does not include all spending on horticultural programs. In total, including other titles of the farm bill discussed in this report and itemized in the bullet lists in the next two headings, the budget projections from P.L. 119-21 increase spending by approximately \$1.3 billion from FY2025 to FY2034.¹⁵ This implies that over the course of FY2025-FY2034, mandatory spending on the horticulture programs discussed in this report would be approximately \$1.3 billion more than if P.L. 119-21 had not been enacted. This estimate accounts for programs with permanent funding and those that received funding through FY2031 in P.L. 119-21.

Funding Increases for Programs with Permanently Authorized Funding

The following programs with permanently authorized funding received an increase in annual mandatory funding from the Commodity Credit Corporation (CCC) under P.L. 119-21:¹⁶

- **Specialty Crop Research Initiative (SCRI; 7 U.S.C. §7632).**¹⁷ Annual CCC funding increased from \$80 million in FY2025 to \$175 million for FY2026 and each year thereafter to remain available until expended.
- **Plant Pest and Disease Management and Disaster Prevention (7 U.S.C. §7721).**¹⁸ Annual CCC funding increased from \$75 million in FY2025 to \$90 million for FY2026 and each year thereafter.
- **SCBGP (7 U.S.C. §1621 note).**¹⁹ Annual CCC funding increased from \$85 million in FY2025 to \$100 million for FY2026 and each year thereafter.

¹³ For more on the budget dynamics of the farm bill, see CRS In Focus IF12233, *Farm Bill Primer: Budget Dynamics*. For discussion of the broader impact of P.L. 119-21 on selected farm bill programs beyond horticulture, see CRS Insight IN12573, *Budget Reconciliation: Farm Bill Programs Without a Budget Baseline and Trade Promotion, Research, Horticulture, and Animal Health Programs with a Budget Baseline*.

¹⁴ Report available at Congressional Budget Office (CBO), “Estimated Budgetary Effects of P.L. 119-21, to Provide for Reconciliation Pursuant to Title II of H. Con. Res. 14, Relative to CBO’s January 2025 Baseline,” July 21, 2025, <https://www.cbo.gov/publication/61570>.

¹⁵ This estimate was calculated by CRS from CBO baseline estimates.

¹⁶ The Commodity Credit Corporation (CCC) is the government-owned financial institution that finances authorized federal farm commodity price support and production programs. For more on the CCC, see CRS Report R44606, *The Commodity Credit Corporation (CCC)*. For an overview of horticulture programs with baseline, see CRS Report R48625, *Specialty Crops: Selected Farm Bill Programs*. The rules of budget reconciliation do not allow for all of the policy changes that may be proposed for some mandatory spending programs, particularly for discretionary spending programs that are usually in a farm bill.

¹⁷ P.L. 119-21, §10604(e). An overview of the program and funding opportunities can be found at USDA, National Institute of Food and Agriculture (NIFA), “Specialty Crop Research Initiative,” <https://www.nifa.usda.gov/grants/funding-opportunities/specialty-crop-research-initiative>.

¹⁸ P.L. 119-21, §10606(a). For an overview of the Plant Pest and Disease Management and Disaster Prevention Program under the Animal Health and Plant Inspection Service (APHIS), see USDA, APHIS, “PPA 771: Plant Pest and Disease Management and Disaster Prevention Program,” <https://www.aphis.usda.gov/funding/ppdmdpp>.

¹⁹ P.L. 119-21, §10606(b). An overview and program information for the Specialty Crop Block Grant Program can be found at USDA, AMS, “Specialty Crop Block Grant Program,” <https://www.ams.usda.gov/services/grants/scbgbp>.

Funding for Programs Extended in P.L. 119-21

P.L. 119-21 also provided funding for certain horticulture programs that were not funded after FY2024. These programs received mandatory budget authority in the 2018 farm bill, but the funding expired along with the 2018 farm bill's expiration in 2023.²⁰ Some of these programs received one year of funding for FY2024 in the Further Continuing Appropriations and Other Extensions Act, 2024 (FY2024 farm bill extension; P.L. 118-22, Division B). P.L. 119-21 provided funding for these programs consistent with or higher than 2018 farm bill levels:

- **Urban, Indoor, and Other Emerging Agricultural Production Research, Education, and Extension Initiative** (7 U.S.C. §5925g).²¹ P.L. 119-21 provides \$2 million annually for FY2025-FY2031. The 2018 farm bill funded the program with \$10 million in FY2019 to remain available until expended, and the FY2024 farm bill extension provided \$2 million in funding for FY2024.
- **Organic Production and Market Data Initiative** (7 U.S.C. §5925c).²² P.L. 119-21 provides \$10 million in total for FY2026-FY2031 to remain available until expended. The 2018 farm bill provided \$5 million in total for FY2019-FY2023 to remain available until expended. The FY2024 farm bill extension provided \$1 million for FY2024.
- **Modernization and Improvement of International Trade Technology Systems and Data Collection** (7 U.S.C. §6522).²³ P.L. 119-21 provides \$1 million in funds for FY2025 and \$5 million in FY2026. The 2018 farm bill provided \$5 million for FY2019, and an additional \$1 million was provided for FY2024 in the FY2024 farm bill extension. Each allocation is to remain available until expended.
- **National Organic Certification Cost Share Program** (7 U.S.C. §6523).²⁴ P.L. 119-21 provides \$8 million annually for FY2025-FY2031. This is the same annual spending level as in the 2018 farm bill for FY2022 and FY2023 and in the FY2024 farm bill extension for FY2024. Each allocation is to remain available until expended.
- **Multiple Crop and Pesticide Use Survey** (not codified; see §10109(c) of P.L. 115-334).²⁵ P.L. 119-21 provided \$5 million of CCC funding for FY2026 to remain available until expended. This is an increase from the 2018 farm bill, which provided \$500,000 for FY2019 to remain available until expended.

²⁰ For background on these programs, including discussion of one-year mandatory funding provided for some of these programs in a farm bill extension for FY2024, see CRS In Focus IF12115, *Farm Bill Primer: Programs Without a Budget Baseline*.

²¹ P.L. 119-21, §10604(a). For more on the program and funding opportunities, see USDA, NIFA, "Urban, Indoor, and Emerging Agriculture," <https://www.nifa.usda.gov/grants/funding-opportunities/urban-indoor-emerging-agriculture>.

²² P.L. 119-21, §10606(c). The data outputs from the initiative can be found at USDA, AMS, "Organic Reports," <https://www.ams.usda.gov/market-news/organic>.

²³ P.L. 119-21, §10606(d). This funding contributes to the USDA Organic Integrity Database, which contains information on USDA certified organic operations globally. For a link to the database, see USDA, AMS, "Organic Integrity Database," <https://organic.ams.usda.gov/integrity/Default>. For more on USDA organic enforcement, see CRS Report R48379, *Organic Agriculture Standards: Oversight and Enforcement*.

²⁴ P.L. 119-21, §10606(e). For more on the Organic Certification Cost-Share program and funding opportunities, see USDA, Farm Service Agency, "Organic Certification Cost Share Program," <https://www.fsa.usda.gov/resources/programs/organic-certification-cost-share-program-occsp>.

²⁵ P.L. 119-21, §10606(f). For more on the survey, see USDA, "Notice of Request for Approval for Generic Clearance to Conduct Multiple Crop and Pesticide Use Surveys," 85 *Federal Register* 17304-17306, March 27, 2020.

- **Emergency Citrus Disease Research and Development Trust Fund** (7 U.S.C. §7632 note).²⁶ P.L. 119-21 provides for a transfer of \$25 million annually from the CCC for FY2025-FY2031 to remain available until expended. This funding level is the same as in the 2018 farm bill and as the level provided for in the FY2024 farm bill extension for FY2024.

Continuing Appropriations, Agriculture, Legislative Branch, Military Construction and Veterans Affairs, and Extensions Act, 2026 (P.L. 119-37)

P.L. 119-37 provides an extension of the 2018 farm bill through FY2026 and annual appropriations for agricultural programs through FY2026. The law also amends the statutory definition of hemp in 7 U.S.C. §1639o. P.L. 119-37 extends through FY2026 the 2018 farm bill authorization to provide grants through some programs, such as SCBGP.²⁷ The law also extends through FY2026 authorizations of appropriations for some farm bill programs, such as the allocation to Specialty Crop Market News.²⁸

Statutory Definition of Hemp

The 2018 farm bill excluded hemp from the definition of marijuana in the Controlled Substances Act (CSA) and defined hemp.²⁹ Hemp and marijuana are varieties of the same plant, *cannabis sativa*.³⁰ In the 2018 farm bill, Congress amended the CSA definition of marijuana to reflect the differences in the chemical and psychoactive properties between hemp and marijuana. The 2018 farm bill referred only to the level of delta-9 tetrahydrocannabinol (THC) to distinguish hemp from marijuana and did not include in the definition the other cannabinoids found within the cannabis plant.³¹

P.L. 119-37 amended the statutory definition of hemp in 7 U.S.C. §1639o. P.L. 119-37 changed the limit in the hemp definition to a *total THC concentration* of less than 0.3% on a dry weight basis, rather than 0.3% of delta-9 THC only.³² The new definition of hemp also explicitly includes

²⁶ P.L. 119-21, §10607(f). An overview of the trust fund and its projects and funding opportunities can be found at USDA, NIFA, “Emergency Citrus Disease Research and Extension Program,” <https://www.nifa.usda.gov/grants/programs/emergency-citrus-disease-research-extension-program>.

²⁷ For more on the implications of the 2018 farm bill extension, see this report’s “Potential Issues for Congress” section.

²⁸ 7 U.S.C. §1622b.

²⁹ *Marijuana* is defined in 21 U.S.C. §802. *Hemp* is defined in 7 U.S.C. §1639o; the amended definition is denoted under the “Amendment of Section” in 7 U.S.C. §1639o.

³⁰ For more on hemp as an agricultural commodity, see CRS Report R44742, *Defining Hemp: A Fact Sheet*.

³¹ *Cannabinoids* refer to the unique chemical compounds produced in cannabis. Delta-9 tetrahydrocannabinol (THC) is the primary intoxicant cannabinoid in cannabis but is not the only naturally occurring THC compound in the plant. For more on the chemical composition of cannabis, see CRS Report R44742, *Defining Hemp: A Fact Sheet*. Congress considered similar amendments to the statutory definition and hemp production programs in the 118th Congress. For more on the prior legislative actions and issues that led to the change in the definition of hemp, see CRS In Focus IF13136, *Changes to the Statutory Definition of Hemp and Issues for Congress*.

³² For a more detailed description of these changes and potential implications, see CRS In Focus IF13136, *Changes to the Statutory Definition of Hemp and Issues for Congress*; CRS Legal Sidebar LSB11381, *Changes to the Federal Definition of Hemp: Legal Considerations Under the Controlled Substances Act*; and CRS Insight IN12620, *Change to Federal Definition of Hemp and Implications for Federal Enforcement*.

industrial hemp—which generally is hemp grown for non-cannabinoid purposes—and establishes exclusions from the new hemp definition, such as

- seeds from a cannabis plant exceeding a 0.3% total THC concentration,
- intermediate hemp-derived products exceeding a 0.3% total THC concentration, and
- final hemp-derived cannabinoid products containing more than 0.4 milligrams of THC per “container.”

Congress directed that the change to the definition of hemp is to go into effect 365 days after enactment of P.L. 119-37.

By being excluded from the new hemp definition, these seeds and products, listed above, remain subject to the CSA definition of marijuana; this seemingly alters the legal status of many hemp products currently available on the market, though it remains unclear if and how federal law enforcement will enforce the new prohibitions when the new definition goes into effect. The new hemp definition also excludes hemp-derived cannabinoid products that contain cannabinoids that are not naturally produced by the cannabis plant or are capable of being naturally produced but were synthesized or manufactured outside the plant.³³ P.L. 119-37 also requires the U.S. Food and Drug Administration (FDA) within 90 days of enactment to publish lists of naturally occurring cannabinoids, THC-class cannabinoids, and all known cannabinoids that have similar effects as THC-class cannabinoids. FDA also is to further define the term *container*.

Legislation Introduced in the 119th Congress

Since enactment of P.L. 119-21 and P.L. 119-37, Congress has been working on a new farm bill.³⁴ On February 13, 2026, House Committee on Agriculture Chairman Glenn “GT” Thompson introduced the Farm, Food, and National Security Act of 2026 (H.R. 7567), which was ordered to be reported on March 4, 2026, and reported in the House on April 21, 2026. On April 30, 2026, H.R. 7567 was passed by the House. Some other Members of Congress also have introduced legislation related to federal horticulture programs. This section describes selected legislation introduced in the 119th Congress that would impact horticulture programs and provisions.³⁵

The Farm, Food, and National Security Act of 2026 (H.R. 7567)

H.R. 7567 would reauthorize and amend selected horticulture programs and their appropriations and create new programs.

H.R. 7567 would reauthorize the program authority through FY2031 for horticulture programs in the farm bill that receive mandatory spending, such as the SCBGP, LAMP (7 U.S.C. §1627c), and OREI (7 U.S.C. §5925b).³⁶ In addition to reauthorization, the bill would prevent USDA from requiring a cost share for states and sub-awardees in the SCBGP.

³³ National Institute on Drug Abuse, “Synthetic Cannabinoids,” <https://nida.nih.gov/research-topics/synthetic-cannabinoids>.

³⁴ For more on the potential farm bill, see CRS Report R48775, *The Farm Bill After FY2025 Budget Reconciliation: Frequently Asked Questions*.

³⁵ The section discusses legislation introduced as of May 22, 2026.

³⁶ For more on the Organic Agriculture Research and Extension Initiative, funding opportunities, and eligibility, see USDA, NIFA, “Organic Agriculture Research and Extension Initiative,” [https://www.nifa.usda.gov/grants/funding-\(continued...\)](https://www.nifa.usda.gov/grants/funding-(continued...))

H.R. 7567 would reauthorize appropriations for selected horticulture programs through FY2031. These programs include OREI; SCRI; Specialty Crop Market News (7 U.S.C. §1622b); the Office of Urban Agriculture and Innovative Production (OUAIP) (7 U.S.C. §6923); the National Plant Diagnostic Network (7 U.S.C. §8914); the Acer Access and Development Program (7 U.S.C. §1632c); the organic production and market data initiative; and NOP (7 U.S.C. §6522).³⁷

Section 10005 of H.R. 7567 would amend the state and tribal hemp production plans and USDA hemp production plans in statute.³⁸ The bill would amend the testing standard for hemp to total THC rather than delta-9 THC only. Additionally, the bill would require states, Tribes, and USDA to provide procedures in their hemp production plans for producers to designate if they are producing solely industrial hemp or hemp for other purposes (i.e., for cannabinoid uses). The bill also allows states, Tribes, and USDA to relax testing requirements for industrial hemp producers by eliminating the requirements for total THC testing and instead developing inspection procedures. The bill would amend enforcement procedures in the hemp production plans and require USDA to collaborate with the Drug Enforcement Administration (DEA) to accredit laboratories for testing hemp.

H.R. 7567 would amend SCRI and other horticulture programs, including NOP and LAMP. The bill includes an allocation of \$30 million in its mandatory funding to go toward a newly created Specialty Crop Mechanization and Automation Research and Extension Program as part of SCRI.³⁹ Additionally, the bill would allow the Secretary of Agriculture to waive the matching funds requirement for SCRI.⁴⁰ Section 10003 would amend OUAIP by expanding its responsibilities and focus. For example, it would expand the ability of the office to enter into cooperative agreements with eligible entities to support the development of urban and innovative production. Section 10105 would amend organic certification and include the option for USDA to offer technical assistance, outreach, and education to support organic production through existing programs at USDA agencies.⁴¹ Section 10102 would amend LAMP by expanding the types of businesses that can participate in LAMP programs, expand the eligible activities for grants to include the purchase of equipment for certain purposes, and simplify the application process for specified eligible entities. Section 10107 would provide amendments to NOP, including definitions for *oversight protocols* and *risk to organic integrity*. Section 10108 of the bill would maintain requirements for compliance inspections but allow virtual inspections for domestic operations that are less likely to be found in violation of the organic standards. Section 10109 would require USDA to conduct a study on whether NOP should restructure its oversight protocols. Section 12414 would require USDA to submit a report to the agriculture committees in

opportunities/organic-agriculture-research-extension-initiative. For more on the programs in LAMP, see USDA, AMS, “Local Agriculture Market Program,” <https://www.ams.usda.gov/services/grants/lamp>. The relevant sections of H.R. 7567 for these reauthorizations are §§7205, 10001, and 10102.

³⁷ For more on data collection from Specialty Crop Market News, see USDA, AMS, “Specialty Crops,” <https://www.ams.usda.gov/market-news/fruits-vegetables>. For an overview, eligibility, and funding opportunities within the National Plant Diagnostic Network, see USDA, NIFA, “Food and Agriculture Defense Initiative National Plant Diagnostic Network,” <https://www.nifa.usda.gov/grants/programs/fadi/fadi-npdn>. For more on the Acer Access and Development Program and funding opportunities, see USDA, AMS, “Acer Access and Development Program,” <https://www.ams.usda.gov/services/grants/acer>. The relevant sections for these reauthorizations in H.R. 7567 are §§7205, 7305, 10002, 10003, 10004, 10103, 10104, and 10105.

³⁸ State and tribal hemp production plan requirements are found at 7 U.S.C. §1639p. USDA’s hemp production plan requirements are found at 7 U.S.C. §1639q.

³⁹ Currently, the Specialty Crop Research Initiative (SCRI) can fund projects dedicated to specialty crop mechanization but does not have any set funds for these projects, which generally are awarded through competitive grants.

⁴⁰ H.R. 3656 also would waive the matching funds requirement for SCRI.

⁴¹ H.R. 7567 includes price reporting and requirements for data for organic milk.

both chambers that discusses the barriers for organic farms to participate in federal programs. The report also would contain steps that USDA can take to remove barriers for organic farmers and any actions needed from Congress for this purpose.

Section 4306 would create the Local Farmers Feeding Our Communities Program, a new program that would support local food and require USDA to enter into cooperative purchasing agreements with state, tribal, and territorial governments to purchase food from local and regional producers and distribute it to organizations with experience in food distribution, such as certain nonprofits. The bill would authorize \$200 million in appropriations through FY2031 for the program.

Some other provisions would impact individual crops. Section 7613 would require the National Agricultural Statistics Service (NASS) to conduct a survey on grape production in each state. Additionally, Section 12421 would require that any honey packed, repacked, labeled, marketed, or sold in interstate commerce in the United States (including imports) is honey, pure honey, or meets acceptable standards determined by USDA. The bill requires the honey to be tested in a qualified laboratory in the United States. A foreign certificate alone would not be sufficient. Section 12416 would require federal agencies (including USDA) to collaborate with domestic honey producers and land-grant universities to establish a harmonized federal definition and standards for honey.

Other Selected Legislation

Some Members of Congress have introduced other legislation in the 119th Congress that would impact horticulture programs and farm bill provisions.

Since enactment of P.L. 119-37, which amended the definition of hemp, some Members have introduced legislation to extend the effective date for the new definition to three years (H.R. 7024, H.R. 7010, S. 3686), and one bill would repeal the new hemp definition (H.R. 6209). Additionally, some Members have introduced legislation that would provide regulatory frameworks for hemp cannabinoid products (H.R. 7212, S. 3474).

Other bills in the 119th Congress would amend or create new horticulture programs. For example, some Members have introduced legislation that would create grants to support mechanization for specialty crop producers (H.R. 5097) or to promote specialty crops broadly (H.R. 5059). Some legislation would require that a certain fraction of SCRI funding is spent on research relating to projects focused on climate (H.R. 3077, S. 1507). Additional proposals would amend organic agriculture programs, such as proposals to expand organic research (H.R. 5703, S. 1385), modify organic import testing requirements (S. 1398), or create organic market development grants (H.R. 6593, S. 3427). Some bills would create a program, similar to Section 4306 of H.R. 7567, to procure and distribute local foods (H.R. 4782, H.R. 6697, H.R. 6706, S. 2338).⁴² Other proposals would amend LAMP to increase CCC funding transferred to the program (H.R. 6775), distribute the funding allocations differently across priorities (H.R. 3077, S. 1507, H.R. 6775), or both.

Potential Issues for Congress

Following enactment of P.L. 119-21 and P.L. 119-37, with respect to horticulture programs and policies, Congress may consider whether or not to undertake any additional farm bill reauthorizations, create new agricultural programs, amend existing programs and provisions, or

⁴² H.R. 4782 was cited as legislation included in H.R. 7567 as per House Committee on Agriculture, *Standalone Legislation Included in H.R. 7567, the Farm, Food, and National Security Act of 2026*, https://agriculture.house.gov/uploadedfiles/ffns26_markerbill_tracker.pdf.

eliminate programs. This section provides discussion of potential issues for Congress on various horticulture policy topics, including specialty crops, organic agriculture, hemp, and local and regional food systems.

Reauthorization of Expiring Programs

Congress may consider whether to reauthorize horticulture programs that receive mandatory spending and whether to adjust those spending levels. These programs are SCBGP, LAMP, and OREI. Although these programs have permanently authorized spending, their authorization to operate expires at the end of FY2026 when the farm bill extension in P.L. 119-37 expires.⁴³ H.R. 7567 includes reauthorizations of these programs through FY2031 and would not alter the mandatory funding allocations.

Additionally, Congress may consider whether to reauthorize and whether to change the authorized levels of appropriations for horticulture programs that receive discretionary spending, such as OREI; the Urban, Indoor, and Other Emerging Agricultural Production, Research, Education, and Extension Initiative; and Specialty Crop Market News.⁴⁴ The authorizations for appropriations for these programs and initiatives are set to expire at the end of FY2026 when the farm bill extension in P.L. 119-37 expires. H.R. 7567 includes reauthorizations of appropriations for these programs at current levels through FY2031.

Congress may consider another short-term extension (e.g., one year) of the 2018 farm bill if new farm bill legislation is not passed in the 119th Congress. Another extension of the farm bill would continue the authorization to provide grants through programs such as SCBGP, LAMP, and OREI for the length of the extension. If an extension were not enacted in this circumstance, the authorization to provide grants in these programs would expire. An extension would extend the authorization of appropriations for discretionary programs. Additionally, an extension generally would not include amendments to the programs, such as those offered in H.R. 7567. Programs that received funding through P.L. 119-21 would continue to operate and would not be impacted by a farm bill extension unless their authorization is separate from their funding, such as with SCBGP. Additionally, Congress could consider allowing these programs to expire and cease operations.

Specialty Crop Programs

Congress may consider whether or not to amend or expand horticulture programs or decrease funding or eliminate such programs. For example, Congress could change the allocation of funds for specialty crop research in the SCRI program to support mechanization and automation research. Current law highlights mechanization research as a priority of the program—such projects are eligible to receive funding, but these activities are not given a formal allocation in the mandatory funding. H.R. 7567 would allocate \$30 million of SCRI’s annual funding of \$175 million to mechanization and automation projects. Other legislation would prioritize SCRI research projects focused on climate (H.R. 3077, S. 1507). Some legislation introduced in the 119th Congress would promote mechanization and specialty crops broadly (H.R. 5059; H.R. 5097). Industry groups have expressed support for specialty crop mechanization programs

⁴³ For more on expiring authorizations, see CRS Report R48775, *The Farm Bill After FY2025 Budget Reconciliation: Frequently Asked Questions*.

⁴⁴ For more on the work of the Office of Urban Agriculture and Innovative Production, see USDA, “Urban Agriculture and Innovative Production,” <https://www.usda.gov/farming-and-ranching/agricultural-education-and-outreach/urban-agriculture-and-innovative-production>. For more programs for which Congress may consider reauthorizing appropriations, see this report’s “H.R. 7567” section.

through research or market promotion for specialty crops broadly.⁴⁵ Others may be of the opinion that farmers have sufficient funding opportunities for these efforts or that they are commercial or nongovernmental activities. Additionally, Congress may consider evaluating cost-sharing requirements for horticulture programs (e.g., H.R. 7567 would prohibit USDA from imposing cost-share requirements).

Congress may consider expanding or reducing the responsibilities and projects of OUAIP. Currently, the office promotes urban, indoor, and emerging agricultural practices that include operations such as community gardens and farms in urban areas, rooftop farms, greenhouses, hydroponic farms, and others. The office manages programs that support the above operations, coordinates within USDA to update programs, engages in stakeholder relations, and has other responsibilities.⁴⁶ H.R. 7567 proposes to expand the office's mission to include controlled environment agriculture. The bill also proposes to add technical assistance to operations and promotion of conservation techniques to the office's responsibilities. Additionally, the bill would authorize the office to enter into cooperative agreements to support urban and innovative agricultural production. Some in the industry have supported expansion of OUAIP's activities and an increase of funding for the office.⁴⁷ Others may question the federal role in assisting urban agriculture and argue that the resources supporting urban agriculture should be spent elsewhere.

Congress may also consider specific provisions and amendments to statutes for individual crops. For example, H.R. 7567 would require NASS to collect additional survey data on grape production.⁴⁸ Congress may consider whether this activity might be needed for additional crops. Congress also may choose to amend the inspection and certification standards for various crops in interstate commerce. For example, H.R. 7567 would amend the identification requirements for honey in 7 U.S.C. §1622(h)(6).⁴⁹ The bill would introduce requirements that honey in the domestic U.S. market, including imports, is to be inspected in certified laboratories to ensure that the product meets standards of identification set by USDA. Currently, honey imports may be marketed as honey when certified by a foreign entity. Additionally, the bill would require USDA and other agencies to establish a national definition for honey. These legislative actions follow concerns from the FDA and the honey industry surrounding the prevalence of fraudulent honey on the market.⁵⁰ Others may question the role of the federal government in food standards and identity.

Organic Agriculture

Congress may consider whether or not to change policies within NOP or programs that support agricultural production certified under NOP. Possible changes could include directing USDA to offer technical assistance, outreach, and education to support organic production through existing programs at USDA agencies or reauthorizing or changing appropriations levels for NOP, as proposed in H.R. 7567. Congress also could consider requiring USDA to report on potential

⁴⁵ Specialty Crop Farm Bill Alliance (SCFBA), *Farm Bill Policy Recommendations*, <https://farmbillalliance.com/wp-content/uploads/2025/08/SCFBA-Recommendations-119th-Congress-FINAL.pdf>.

⁴⁶ 7 U.S.C. §6923.

⁴⁷ National Sustainable Agriculture Coalition (NSAC), *2023 Farm Bill Platform*, August 5, 2025, <https://sustainableagriculture.net/wp-content/uploads/2022/11/2023-Farm-Bill-Platform.pdf>.

⁴⁸ Similar provisions are proposed in H.R. 4205 in the 119th Congress.

⁴⁹ Similar provisions are proposed in H.R. 2162 in the 119th Congress.

⁵⁰ See Food and Drug Administration (FDA), "FDA Releases FY25 Sampling Results on Economically Motivated Adulteration in Honey," <https://www.fda.gov/food/hfp-constituent-updates/fda-releases-fy25-sampling-results-economically-motivated-adulteration-honey>; and CRS In Focus IF12185, *Ongoing Efforts to Address Fraud and Adulteration of Honey*.

barriers to access for organic farmers to receive federal assistance, which is also proposed in H.R. 7567. Congress may consider amending NOP's inspection and oversight requirements similarly to H.R. 7567, which bases the requirements on the potential for an operation to violate the NOP standards or whether the operation is domestic or international. These standards would require additional inspection and oversight of international operations and operations that are deemed "higher risk" for violating organic standards while reducing the oversight protocols of on-site inspections to once every three years among operations deemed "lower risk." Additionally, Congress could consider allowing for virtual inspections for operations that are deemed lower risk for violations of organic standards. Congress also may consider making no further amendments to organic standards and enforcement and continuing to conduct oversight of the current standards.⁵¹ Congress might consider other options, such as expanding organic research (H.R. 5703, S. 1385), modifying regulations for organic imports (S. 1398), or creating marketing and promotion grants (H.R. 6593, S. 3427). Some stakeholders have expressed support for efforts to improve organic regulations, market access, and research.⁵² Others may question the federal role in assisting and promoting organic agriculture or express that there is no need to amend or update the current NOP standards.⁵³

Local and Regional Food Systems

Congress may consider creating new local food programs, expanding existing ones, or decreasing funding or eliminating such programs. For example, H.R. 7567 would codify a program similar to the Local Food Purchase Assistance Cooperative Agreement Program (LFPA). USDA created and implemented LFPA using funds from the American Rescue Plan Act (P.L. 117-2) and from the CCC to enter into cooperative purchasing agreements with qualifying local and regional producers, who then distributed the commodities.⁵⁴ Data from USAspending.gov reflect a rescission of funds for LFPA in 2025.⁵⁵ H.R. 7567 would authorize appropriations for its version of the program without using CCC funding. Prior to the introduction of H.R. 7567, some Members of Congress introduced bills that would codify the program in various forms (H.R. 4782, H.R. 6697, H.R. 6706, S. 2338).⁵⁶

Congress also may consider amending other programs, such as LAMP. Such program amendments could resemble those in H.R. 7567, which proposes to expand the types of eligible businesses that may participate in LAMP or the activities eligible to receive grant support, such as the purchase of equipment. Congress also could choose to amend the mandatory CCC funding to LAMP (H.R. 6775) or reorganize the mandatory funding allocations differently across LAMP programs (H.R. 3077, S. 1507, H.R. 6775).

⁵¹ For more on the current oversight and reporting following the 2018 farm bill, see CRS Report R48379, *Organic Agriculture Standards: Oversight and Enforcement*.

⁵² Organic Trade Association, "Farm Bill," <https://ota.com/advocacy/policy-positions/organic-trade-association-farm-bill-priorities>; and NSAC, *2023 Farm Bill Platform*.

⁵³ For example, see Peter Van Doren, "Should Taxpayers Back the 'Organic' Label?," *Cato at Liberty* (blog), Cato Institute, May 5, 2017, <https://www.cato.org/blog/should-taxpayers-back-organic-label>.

⁵⁴ For more on the Local Food Purchase Assistance Cooperative Agreement Program, see USDA, AMS, "Local Food Purchase Assistance Cooperative Agreement Program," <https://www.ams.usda.gov/selling-food-to-usda/lfpacap>. For more on the CCC funding, see CRS Report R44606, *The Commodity Credit Corporation (CCC)*.

⁵⁵ See USAspending.gov, "Advanced Search," <https://www.usaspending.gov/search?hash=628f314b21490d2b9da9ca26c2b80bf1>.

⁵⁶ H.R. 4782 was cited as legislation included in H.R. 7567, in House Committee on Agriculture, *Standalone Legislation Included in H.R. 7567, The Farm, Food, and National Security Act of 2026*, https://agriculture.house.gov/uploadedfiles/ffns26_markerbill_tally-by-title_final.pdf.

Some industry groups have supported such proposed changes and funding expansion for commodity procurement and local food grant programs.⁵⁷ Others have supported reducing funding and emphasis for local food programs.⁵⁸

Hemp

A variety of stakeholders have advocated for various federal definitions of hemp. Prior to enactment of P.L. 119-37, some regulatory groups and attorneys general in several states expressed a desire for Congress to amend the statutory definition of hemp along the lines of the current law.⁵⁹ The concerns of these groups include interpretations of the 2018 farm bill definition that led to the production of hemp products that contained less than 0.3% delta-9 THC but had a total THC concentration that exceeded 0.3% total THC, with potential to be intoxicating (known to some as the “farm bill loophole”).⁶⁰ Other groups have expressed opposition to the definitional changes in P.L. 119-37 and support a delay in the effective date of the new definition or a repeal of the language. These groups also have supported regulation of the market of hemp-derived consumer products through agencies such as the FDA.⁶¹

Since the passage of the new hemp definition in P.L. 119-37, some in Congress have desired a three-year extension of the effective date for the new definition or a repeal of the new hemp definition. In conjunction with these proposals, some Members have introduced legislation that would create regulatory frameworks for hemp cannabinoid production and products. During the House Committee on Agriculture markup of H.R. 7567, an amendment was offered and subsequently withdrawn to delay the implementation of the new hemp definition.⁶² Prior to the markup, it was reported that House Agriculture Committee Chairman Thompson expressed concern that a delay of the implementation of the definition of hemp was not germane and falls “under the jurisdiction of the House Energy and Commerce Committee,” implying that the farm bill is not the proper vehicle for consideration of any delays to the implementation of the definition.⁶³

⁵⁷ SCFBA, *Farm Bill Policy Recommendations*; NSAC, “Senate Bill Offers a Pathway to Sustain Local Food Purchasing Program,” *NSAC’s Blog*, April 12, 2024, <https://sustainableagriculture.net/blog/senate-bill-offers-a-pathway-to-sustain-local-food-purchasing-program/>.

⁵⁸ Aimee Picchi, “USDA cancels \$1 billion in funding for schools and food banks to buy food from local suppliers,” *CBS News*, updated March 13, 2025, <https://www.cbsnews.com/news/usda-cancels-local-food-purchasing-food-banks-school-meals/>.

⁵⁹ For example, see Letter from Gillian Schauer, PhD, et al., executive director, Cannabis Regulators Association, to Rep. Glenn “GT” Thompson et al., chairman, House Committee on Agriculture, September 15, 2023, https://static1.squarespace.com/static/5f7e577e23ad7c718c269776/t/65046e14c614b50e07d952c8/1694789140786/CANNRA+Letter_Farm+Bill_Sept2023_FINAL.pdf; and National Association of Attorneys General, “39 State and Territory Attorneys General Call for Clarification of Federal ‘Hemp’ Definition,” press release, October 24, 2025, <https://www.naag.org/press-releases/bipartisan-coalition-of-39-state-and-territory-attorneys-general-urges-clarify-federal-definition-of-hemp/>.

⁶⁰ For more on legal interpretations of the 2018 farm bill’s definition of hemp, see CRS Report R48637, *The 2018 Farm Bill’s Hemp Definition and Legal Challenges to State Laws Restricting Certain THC Products*.

⁶¹ U.S. Hemp Roundtable, “This is an inflection point for hemp,” November 24, 2025, <https://hempsupporter.com/news/this-is-an-inflection-point-for-hemp/>.

⁶² See “Amendment offered by Mr. Baird of Indiana,” in U.S. House of Representatives Committee Repository, “Markup of “To Consider H.R. 7567, the Farm, Food, and National Security Act of 2026,”” <https://docs.house.gov/meetings/AG/AG00/20260303/118990/BILLS-119-15-B001307-Amdt-15.pdf>.

⁶³ Olivia M. Bridges, “Thompson finds Baird’s hemp amendment to farm bill isn’t germane,” *CQ News*, February 25, 2026.

The 2018 farm bill established hemp production plan requirements for states, territories, and Tribes that desire to have primary regulatory authority of hemp production in their locales.⁶⁴ The 2018 farm bill also directed USDA to establish regulations that would monitor and regulate hemp production for states, territories, and Tribes that do not have a USDA-approved hemp production plan.⁶⁵ Congress may consider adopting the amendments to hemp production plans in H.R. 7567, which would provide amendments to the state and tribal hemp production plans and USDA hemp production plans in statute. The amendments in the bill would mirror the definitional change in P.L. 119-37 by updating the testing standard for hemp to total THC rather than delta-9 THC only. The bill also would allow states, territories, and Tribes to reduce or relax testing requirements for industrial hemp. In addition, Congress may consider conducting oversight of the implementation of the new hemp definition across federal departments and agencies, including USDA, the FDA, and the DEA.

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⁶⁴ 7 U.S.C. §1639p.

⁶⁵ 7 U.S.C. §1639q.