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September 3, 2024

Congressional Research Service
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R48169

CRS REPORT
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SUMMARY

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September 3, 2024

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Animal Disease Traceability: Electronic Identification Requirements

Animal disease traceability (ADT) is the concept of ensuring a rapid, coordinated national response in the event of an animal disease outbreak by knowing where diseased and at-risk animals are located, where they have been, and when they were at a location. The U.S. Department of Agriculture (USDA), as part of its effort to establish a national ADT program, published a final rule through the Animal and Plant Health Inspection Service (APHIS) on April 26, 2024. The rule requires eartags to be visually and electronically readable in order to be recognized for use as official animal identification (ID) for the interstate movement of certain classes of cattle and bison by November 5, 2024. Previously, eartags used as official animal ID had to be visually readable only.

According to USDA's National Agricultural Statistics Service, the U.S. cattle inventory totaled 87.2 million head as of January 1, 2024, and the most recent assessment of the U.S. bison herd in 2017 counted 184,000 head. The APHIS final rule will affect 11% of the nation's domestic cattle and bison herd, primarily breeding stock.

Unlike poultry, swine, or other livestock species, the U.S. cattle industry is made up of distinct, separate, and geographically dispersed production segments. Millions of head of cattle move within the United States each year to meet global beef demand. This movement can be disrupted in the event of an animal disease outbreak.

One of the factors that led to the establishment of a national ADT program in the United States can be traced to a dairy cow in Washington State that tested positive for bovine spongiform encephalopathy (BSE, or "mad cow disease") on December 23, 2003. Fourteen days later, animal health officials confirmed that the diseased cow—which had a metal, visually readable eartag—originated from a herd in Canada. By then, 53 countries—including major markets such as Japan, Mexico, South Korea, and Canada—had banned imports of U.S. cattle and beef products. It is estimated that the loss of beef export markets in the following year cost the industry $3.2-$4.7 billion. Domestic cattle prices also fell 16% as beef supplies stacked up at home.

ADT seeks to reduce international trade and domestic production disruptions caused by disease outbreak. By quickly and accurately tracing the source of an outbreak to an individual animal, officials can work to contain the spread of disease and prevent unnecessary infections or deaths. Electronic identification (EID) for animals used as a component of an ADT program may offer a way to expedite disease traceback events.

Certain segments of the livestock industry incorporate EID in their animal husbandry practices to boost production efficiency, provide supply chain transparency, or participate in timely disease traceback procedures. Other livestock industry members are reluctant to adapt EID for their animals due to concerns about data security and confidentiality, implementation costs, or an aversion to federal mandates.

Some Members of Congress have introduced legislation in the 118th Congress that would prevent the Secretary of Agriculture from implementing any rule requiring the mandatory use of EID on cattle or bison. Legislative activity surrounding the farm bill also provides an opportunity for discussion of the purpose, benefits, and challenges associated with implementing a national EID mandate.

In evaluating the establishment of a national electronic traceability mandate for cattle and bison, Congress may consider the impact of animal disease outbreaks on domestic production and international trade, the cost of funding the federal mandate, concerns with user data and confidentiality, and possible threats to national security.

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In 2022, U.S. farms and ranches produced $543.1 billion in agricultural products, with animal agriculture accounting for 48% of the value.[1] The health and wellbeing of these animals is a key concern for producers as well as state and federal governments.

Disruption to the agricultural sector can lead to food shortages, price increases, and other effects, including the potential for deleterious trade and health effects. Some policymakers have focused their attention on ways to identify and respond to animal disease outbreaks in order to maintain public confidence in the safety of the food supply, address and limit contagion, and maintain public health. These mechanisms have costs—often borne by producers—and have led to debate about their efficacy. This report highlights federal activities regarding the tracing of disease in live animals and selected policy issues for congressional consideration. It does not address traceability of meat and meat products subsequent to harvest.

Purpose of Animal Identification

Animal disease traceability (ADT) is one aspect or use of animal identification (ID). Animal ID refers to keeping records on individual farm animals or groups of farm animals (e.g., flocks or herds) so that they, their ownership, and the production traits attributable to them can be more easily tracked from their birth through the marketing chain. Use of animal ID in the United States dates back at least to the 1800s, when hot iron brands were used to indicate animal ownership.

Today, animal ID includes information on an animal's origins (e.g., birthplace, parentage, sex, breed, genetics) and *traceability*—the ability to track an animal product back through the marketing chain to its source and identify other animals or animal products with which it has come into contact. Methods of animal ID may include ear, back, and tail tags; neck chains; freeze and hot iron brands; and leg bands.

A focus of federal efforts related to animal ID is animal health, including containing the spread of animal disease. Traceability for this purpose relates to movements from the animal's point of birth to its slaughter and processing location. Traceability past the terminal location, or where an animal is harvested, is used in some food safety and marketing programs to provide consumers with additional origin information, to support animal-raising claims to qualify for certain export programs, or to inform food safety recall decisions.

Global outbreaks of harmful animal diseases—including avian influenza, foot and mouth disease, and bovine spongiform encephalopathy (BSE, also known as "mad cow disease")—have led to the euthanasia of millions of commercial animals and caused billions of dollars in economic costs. The costs from animal disease outbreaks first affect the producer, who may suffer direct loss of their animals and livelihood. The costs may extend beyond the farm gate to disrupt domestic and international markets, potentially causing losses along the marketing chain, including to producers whose livestock are not diseased, and ultimately affecting consumers' food availability and costs.

Regionalization and compartmentalization are disease management tools used to contain a disease outbreak to a specific geographical region. They aim to leave the areas outside of that geographical region free of the particular disease and not at risk for international trade restrictions to mitigate the spread of the disease.[2] Rapid identification and compartmentalization of a disease

[1] U.S. Department of Agriculture (USDA), National Agricultural Statistics Service (NASS), *2022 Census of Agriculture Highlights: Farm Economics*, February 2024, https://www.nass.usda.gov/Publications/Highlights/2024/Census22_HL_FarmEconomics_FINAL.pdf.

[2] For the purposes of evaluating the animal health statues of foreign countries and the risk of disease introduction from (continued...)

outbreak limits the spread of commercially harmful diseases, potentially reducing the number of animals required to be destroyed or removed from marketing channels. Compartmentalization also facilitates the reestablishment of international market access and the reopening of lost export markets. In general, the more rapid and effective the response to an animal disease outbreak, the more limited the economic damage.

After BSE appeared in North America in 2003, the U.S. Department of Agriculture's (USDA's) Agricultural Marketing Service (AMS) developed an export verification program for U.S. plants seeking to meet the differing beef import specifications of various countries such as Japan, a key foreign market for U.S. beef. AMS establishes the standards that U.S. suppliers are to follow if they want to ship beef to these countries and certifies that the proper procedures are in place.

Participation in export verification is voluntary, but Japan, Korea, and other countries have made it a prerequisite for access to their markets.[3]

USDA contends that establishing an internationally recognized system of traceability is likely to enhance the competitiveness of U.S. exports of animals and animal products. After establishing a standardized national ID system, the United States was able to receive "negligible risk" status (the highest status possible under the rating system) for BSE from the World Organisation for Animal Health (WOAH) in 2013. The lack of a standardized national animal ID system was one factor that prevented the United States from receiving "negligible risk" status for BSE from the World Organisation for Animal Health sooner.[4] Receiving negligible risk status earlier would have likely enhanced the United States' ability to compete internationally, and USDA maintains that it would have better supported U.S. domestic price structures, so that all producers—regardless of their interest in international marketing—would benefit when the United States expanded its export markets.[5]

Mandatory Animal Identification

The discovery of BSE in the United States in 2003 prompted USDA to expedite the work it had started the year before with stakeholders and animal health officials to draft a framework for implementing a National Animal Identification System (NAIS).[6] NAIS was to be a three-step approach—premises registration, animal ID, and traceability—to implementing a national animal ID program.

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imported commodities, USDA APHIS defines a region as a geographic land area identifiable by geological, political, or surveyed boundaries. A compartment is defined as any specific animal subpopulation contained in one or more establishments under a common biosecurity management system for which surveillance, control, and biosecurity measures have been applied with respect to a specific disease. (See USDA APHIS, *Animal Health Regionalization and Compartmentalization*, June 21, 2024, https://www.aphis.usda.gov/regionalization-evaluation-services.)

[3] USDA AMS, "Bovine, Ovine and Caprine Export Verification Programs," https://www.ams.usda.gov/services/imports-exports/bovine-ovine-and-caprine-export-verification-programs.

[4] The World Organisation for Animal Health (WOAH) was founded in 1924 as the Office International des Épizooties (OIE). On May 28, 2022, it unveiled a new brand identity, which allowed for the use of its full name and the corresponding acronym, "WOAH." WOAH recognizes three bovine spongiform encephalopathy (BSE) risk statuses: negligible, controlled, and undetermined. For a country to qualify for negligible risk status, an ongoing surveillance program must be in place, and classical BSE must not have been detected in the domestic bovine population for at least the previous eight years.

[5] U.S. Congress, House Committee on Agriculture, *Hearing to Review Animal Identification Systems*, 111th Cong., 1st sess., March 11, 2009, 111-02 (Washington: GPO, 2009), p. 11 (hereinafter Testimony of Deputy Administrator for Veterinary Services Dr. John Clifford, APHIS, 2009).

[6] For more information, see CRS Report R40832, *Animal Identification and Traceability: Overview and Issues*, by Joel L. Greene.

After feedback from livestock industry members and state animal health officials and the publication of a report from the Government Accountability Office (GAO), Secretary of Agriculture Thomas J. Vilsack announced in 2010 that USDA would revise its approach.[7] NAIS was to be replaced with a new approach that would allow individual states and tribal entities to choose their own degree of within-state traceability programs for livestock populations. USDA would then require that all animals moving in interstate commerce have a form of animal ID that would allow traceability back to its originating state.

In 2013, USDA's Animal and Plant Health Inspection Service (APHIS) finalized the "Traceability for Livestock Moving Interstate" rule.[8] The rule established minimum animal ID and documentation requirements for the interstate travel of cattle and bison; sheep and goats; swine, horses, and other equines; captive cervids (e.g., deer and elk); and poultry. Unless specifically exempted, livestock traveling over a state border must be officially identified and accompanied by an interstate certificate of veterinary inspection (ICVI) or other documentation. Exemptions apply for livestock moving within tribal land or to a custom slaughter facility.

Each covered species has its own animal ID devices, methods, and requirements. For example, poultry moving interstate are required to have sealed and numbered leg bands; horses and other equines moving interstate can be officially identified using a digital photograph or written description of the animal.

For certain classes of cattle and bison, the 2013 final rule required one of the following methods for those animals moving interstate:

- an official eartag that bears the official eartag shield and a unique ID number;
- brands registered with a recognized brand inspection authority and accompanied by an official brand inspection certificate (when agreed to by the shipping and receiving state or tribal animal health authority);
- tattoos and other ID methods acceptable to a breed association for registration purposes accompanied by a breed registration certificate (when agreed to by the shipping and receiving state or tribal animal health authority); or
- group/lot ID numbers (GINs) for units of like animals of that have been managed as one group throughout the preharvest production chain.

These requirements apply to certain classes of cattle and bison, including

- all sexually intact cattle and bison 18 months of age or over;
- all female dairy cattle of any age and all dairy males born after March 11, 2013;
- cattle and bison of any age used for rodeo or recreational events; and
- cattle and bison of any age used for shows or exhibitions.

Under the 2013 final rule, specifications about the age, kind, or use of animals to be officially identified apply to no species other than those classes of cattle and bison listed above. This may reflect the unique nature of the U.S. cattle industry—animals are birthed, raised, fattened,

[7] U.S. Government Accountability Office (GAO), National Animal Identification System: USDA Needs to Resolve Several Key Implementation Issues to Achieve Rapid and Effective Disease Traceback, GAO-07-592, August 2, 2007, https://www.gao.gov/products/gao-07-592; and USDA, "USDA Announces New Framework for Animal Disease Traceability," USDA, February 5, 2010.

[8] USDA, Animal and Plant Health Inspection Service (APHIS), "Traceability for Livestock Moving Interstate," 78 *Federal Register* 2071, January 9, 2013. See also 9 C.F.R. Part 86.

transported, slaughtered, and further processed by different industry participants located in geographically distinct areas.[9]

Cow-calf producers breed and raise animals that are then sold to a backgrounder or stocker who prepares them for their transition to a feedlot. Cattle may then be transported from their source farm to a livestock auction for prospective buyers to bid on them. Those buyers aggregate individual or small groups of animals into large groups of like kind, at which point the animals travel to the slaughter and processing facility for harvest.

Cattle can be bought or sold as individual animals and move forward—or backward—through this supply chain. Regulators acknowledged that the complexity of the U.S. cattle industry meant that producers would need more time to adapt a national ADT standard; therefore, USDA excluded the majority of cattle from being covered under the 2013 final rule.[10]

Implementation of the 2013 Final Rule

In an evaluation of the 2013 final rule published in 2017, APHIS identified four main challenges regarding its traceability capabilities:[11]

1. Reliance on the use of visually readable eartags;
2. Application of official ID requirements only to livestock moving interstate;
3. Exclusion of feeder cattle; and
4. Effective retirement of official ID numbers at slaughter.

Relying on Visually Readable Eartags

The 2013 final rule required that an eartag used for official ID on certain classes of cattle and bison need be visually readable. Visual-only eartags are low cost and accepted by most producers. They are imprinted with official ID numbers and the official eartag shield and are designed to be tamper-evident. The National Uniform Eartagging System (NUES) and the National Animal ID Number System (AIN) are the individual animal numbering systems used for official eartags for cattle and bison.

NUES and AIN numbers contain 15 and 9 digits, respectively. Visual-only eartags are read and recorded by an individual who transcribes each set of numbers by hand. These eartags are on animals moving through a chute or head catch. APHIS explained that this system can lead to human errors while reading, transcribing, or recording the numbers in a database.[12] Errors may require the handling of animals multiple times to read and transcribe animal ID information.

[9] Other species in livestock production, such as poultry, are more vertically integrated. Approximately 30 federally inspected companies raise, process, and market the majority of broiler chickens in the United States. These companies contract with farmers to raise an entire group or lot of chickens from hatchlings to market weight. They are then transported, as an entire group or lot, directly to the slaughter and processing location. See National Chicken Council, "Broiler Chicken Industry Key Facts 2023," https://www.nationalchickencouncil.org/chicken-processors-redoubling-efforts-to-keep-essential-workers-safe-and-healthy/.

[10] USDA, APHIS, *Animal Disease Traceability Assessment Report*, April 2017, p. 4, https://www.aphis.usda.gov/sites/default/files/adt-assessment.pdf.

[11] Ibid., p. 4-5.

[12] Ibid., p. 22.

Applying Animal ID Requirements Only to Interstate Livestock

The second issue identified by APHIS is that the 2013 final rule applied only to livestock moving interstate. This may present certain challenges within the supply chain—for example, while sorting animals at livestock markets where animals with different official ID requirements may be mixed together. Animals that never leave the state they are born in are not subject to federal traceability regulations. These animals are still able to spread contagious diseases to other animals.[13]

Excluding Feeder Cattle

The exclusion of feeder cattle from the 2013 final rule was a response by APHIS to U.S. beef and cattle stakeholders who requested additional time to comply with the regulation. APHIS stated in its 2017 assessment report that it views the inclusion of feeder cattle in the traceability regulations as "an essential component of an effective traceability system in the long term."[14]

Feeder cattle are likely to travel across state lines, either from origin premises or to terminal locations. Cattle feeding is concentrated in the Great Plains and also is found in other parts of the United States. Given the volume of animals being moved from rearing locations to feedlots and then to slaughter facilities, the agency recognized that creating individual ICVIs for feeder cattle would be "unduly cumbersome" without electronic identification (EID) infrastructure in place.[15]

Retiring Official Animal ID Numbers at Slaughter

APHIS explained that despite the requirement that official animal ID numbers cannot be reused, "the termination of visual-only tags is not currently feasible" and that "it could be systematically achieved at slaughter plants when [radio frequency ID] technology and infrastructure are established."[16] Retiring visual-only ID tags requires removing and cleaning each eartag, manually entering ID numbers into the system to find a match, and then retiring the number. Many slaughter facilities did not complete this step due to the extra labor and time it would require. According to APHIS, with radio frequency ID (RFID) eartags and scanners, ID numbers could be scanned, matched, and retired efficiently.[17] They asserted that the integration of RFID in ADT, "must be driven by the industry with government oversight and support" and, "if undertaken, would be a significant challenge and would require a lengthy implementation period and a well thought out and detailed plan."[18]

Stakeholder Feedback on the 2013 Final Rule

In 2017, APHIS hosted nine public meetings to gather feedback from cattle and bison industry members on the implementation of the final rule. Industry members shared their concerns with the agency, which included confidentiality of private or proprietary information, the undue burden

[13] Ibid., p. 22.

[14] Ibid., p. 23.

[15] Ibid., p. 5.

[16] Radio frequency identification (RFID) is a form of wireless communication that uses electromagnetic waves to identify and track tags attached to objects, people, or animals. The tags store digitally encoded data that can be read by an RFID reader. The tag does not need to be in sight of the reader, unlike barcode readers, and can be read from a distance.

[17] USDA, APHIS, *Animal Disease Traceability Assessment Report*, April 2017, p. 24.

[18] Ibid., p. 5.

the regulation placed on small producers, and the need for uniform enforcement at all points of animal movement. Over 460 written public comments were received.

In its summary of the meetings, APHIS stated, "Industry participants and animal health officials agreed that electronic identification is necessary to achieve cost-effective traceability."[19] APHIS referenced its 2017 assessment report and industry feedback as in keeping with its efforts to further electronic ADT.[20]

Michigan Establishes Mandatory Electronic Identification for Cattle and Bison

In March 2007, Michigan established a mandatory electronic identification (EID) requirement for cattle and bison. The state maintains a Bovine Tuberculosis (TB) Eradication Program to prevent, detect, and respond to disease outbreaks in beef, dairy, and bison herds. Bovine TB also exists in the state's wildlife population, especially in the free-ranging white-tailed deer population in specific areas of northeastern lower Michigan. To manage the spread of disease, all bison and cattle must have an official ID eartag, regardless of age, breed, or sex. For animals moving intrastate for exhibition or sale, the official ID must be a radio frequency ID (RFID) eartag.

A survey conducted by Michigan State University in 2022 of cattle producers in Michigan found that 97% of respondents reported using RFID cattle disease traceability systems, which are required by the state, and visual eartags.[21] Nearly one-fourth of respondents would be willing to participate in a voluntary traceability system beyond Michigan's requirements, citing high start-up and labor costs as barriers to participation.

Initial Efforts to Establish an Electronic ID National Mandate

APHIS issued two initial efforts to establish a national mandate for EID of covered classes of cattle and bison. Neither were implemented.

In April 2019, APHIS distributed a fact sheet for industry titled, "Advancing Animal Disease Traceability: A Plan to Achieve Electronic Identification in Cattle and Bison."[22] In the fact sheet, the agency laid out a three-and-a-half-year timeline for implementing mandatory EID for the covered classes of cattle and bison already bearing visually readable eartags. One industry group responded to the new mandate with legal action. The Ranchers-Cattlemen Action Legal Fund United Stockgrowers of America (R-CALF USA) and four individual ranchers from Wyoming and South Dakota filed a lawsuit in federal district court asserting that the 2019 mandate was not adopted pursuant to a formal notice-and-comment rulemaking procedure under the Administrative Procedure Act.[23] The group alleged that USDA violated the Federal Advisory Committee Act when it hosted meetings with members of its "State-Federal Animal Disease Traceability Working

[19] USDA, APHIS Veterinary Services, *Animal Disease Traceability*: *Summary of Program Reviews and Proposed Directions from State-Federal Working Group*, April 2018, https://www.aphis.usda.gov/sites/default/files/adt-summary-program-review.pdf.

[20] USDA, APHIS, "USDA Outlines Next Steps for Advancing Animal Disease Traceability," September 25, 2018, https://content.govdelivery.com/accounts/USDAAPHIS/bulletins/20fc48b.

[21] Kayla Braggs et al., "Michigan cattle producers' perceptions of traceability technology," Michigan State University Extension, April 23, 2024, https://www.canr.msu.edu/news/michigan-cattle-producers-perceptions-of-traceability-technology.

[22] USDA, APHIS, "Advancing Animal Disease Traceability: A Plan to Achieve Electronic Identification in Cattle and Bison," fact sheet, April 2019, https://www.r-calfusa.com/wp-content/uploads/2020/02/plan-to-achieve-eid-factsheet.pdf.

[23] R-CALF USA et al. v. USDA et al., 19-CV-205-F; 539 F.Supp.3d 1220 (2021).

Group."[24] Shortly after the lawsuit was filed, APHIS removed the fact sheet from its website and stated that it was no longer planning to enforce its proposed policy requiring the use of RFID tags.[25]

In July 2020, the agency published a notice and request for comments in the *Federal Register* titled, "Use of Radio Frequency Identification Tags as Official Identification in Cattle and Bison."[26] After reviewing the 935 comments received, the agency indicated it would not finalize the 2020 notice and would instead initiate a rulemaking process for further action.[27]

The 2024 Final Rule on Electronic ID

APHIS issued the proposed rule, "Use of Electronic Identification Eartags as Official Identification in Cattle and Bison," on January 19, 2023.[28] The rule was finalized on April 26, 2024, and will become effective on November 5, 2024.[29]

The agency received and reviewed 2,006 comments on the proposed rule requiring that eartags applied to covered livestock for the purposes of official animal ID need to be both visually *and* electronically readable.

The change in official animal ID requirements will impact 11%-12% of the nation's domestic cattle herd, according to the agency's regulatory impact analysis.[30] The 2024 final rule continues to exclude feeder cattle from these requirements. The 2024 final rule also clarifies certain records documentation processes.

Eartags permitted for use under the 2024 final rule may use RFID to electronically convey information about an individual animal. Producers can use eartags equipped with low frequency (LF) or ultra high frequency (UHF) technology, depending on their needs and how their facilities are set up. The reader can read LF eartags from a short distance away from the animal and UHF eartags from nearly 30 feet away.

Certain standards must be met for an EID eartag to be approved as official ID, including the use of contrasting colors and visual readability at up to 30 inches away by a person with 20/20 vision.[31] The metal, visual-only eartags did not have such readability standards.

[24] USDA, APHIS Veterinary Services, *Animal Disease Traceability*: *Summary of Program Reviews and Proposed Directions from State-Federal Working Group*, April 2018, https://www.aphis.usda.gov/sites/default/files/adt-summary-program-review.pdf.

[25] USDA, APHIS, *APHIS Statement on Animal Disease Traceability*, October 25, 2019, https://www.aphis.usda.gov/sites/default/files/traceability.pdf.

[26] USDA, APHIS, "Use of Radio Frequency Identification Tags as Official Identification in Cattle and Bison," 85 *Federal Register* 40184, July 6, 2020.

[27] USDA, APHIS, *Regulatory Impact Analysis & Final Regulatory Flexibility Analysis for Animal Disease Traceability; Electronic Identification*, APHIS-2021-0020-2012, May 9, 2024, p..4-5, https://www.regulations.gov/document/APHIS-2021-0020-2012.

[28] USDA, APHIS, "Use of Electronic Identification Eartags as Official Identification in Cattle and Bison," 88 *Federal Register* 3320, January 19, 2023.

[29] USDA, APHIS, "Use of Electronic Identification Eartags as Official Identification in Cattle and Bison," 89 *Federal Register* 39540, May 9, 2024.

[30] Ibid., p. 10.

[31] USDA, APHIS, *Animal Disease Traceability, General Standards, Version 2.8*, September 2019, p. 26, https://www.aphis.usda.gov/sites/default/files/adt-general-standards.pdf (hereinafter ADT General Standards).

The 2024 final rule does not discontinue the use of other means of official ID, if agreed on between the shipping state and the receiving state or tribal animal health authority.[32] Other official ID include brands registered with a recognized brand inspection authority and accompanied by an official brand inspection certificate *or* tattoos and other ID methods acceptable to a breed association for registration purposes.

There are exceptions to the 2024 final rule.

- **Direct-to-Slaughter.** Animals moved from livestock markets directly to slaughter may use backtags and do not need official ID, even if traveling interstate. [33]
- **Tagging Site Exception.** Cattle may be moved across state lines directly to an approved tagging site. Livestock auctions are often registered as approved tagging sites.

In addition, animals identified with a visual-only official ID tag before the effective date of the final rule will not need to be tagged again with an EID eartag. The visual-only official ID tag would be considered official ID for the remaining lifetime of the animal.

Recordkeeping Requirements

The 2024 final rule requires any entity who distributes official ID—including a state, tribe, or accredited veterinarian—to maintain a record for five years of the names and addresses of anyone to whom the devices were distributed. Producers, if applying tags to their own animals, do not need to record or store this information, as it has been accounted for by the distributing entity.

Tag distribution records are housed in the APHIS Animal Identification Number Management System (AIMS), which is accessible to approved device manufacturers, device managers, resellers (e.g. accredited veterinarian, online retailer, feed store), and state and federal animal health officials.[34] APHIS maintains record of EID device distribution indefinitely.[35]

EID eartags are designed to last the life of the animal.[36] If an official eartag on an animal becomes lost, producers may apply a new eartag and maintain a record of the new device for the next five years.

The 2024 final rule does not require the digitization of paper records, though the use of electronic ICVIs may be used. An ICVI is issued by an accredited veterinarian or a federal, state, or tribal animal health official and is required for covered livestock moving interstate. Other documentation, such as a brand inspection certificate, also may be used if agreed on by both the shipping and receiving states.

Under the 2024 final rule, APHIS adds a new requirement that the agency must be able to access any records during normal business hours for the purposes of a disease traceback investigation.

[32] Livestock movement requirements by species and state can be queried in an external database operated by industry members. See National Institute for Animal Health and U.S. Animal Health Association, "Interstate Animal Movement Requirements," https://www.interstatelivestock.com/.

[33] Backtags are a form of temporary animal ID.

[34] ADT General Standards, p. 12.

[35] USDA, APHIS, *Privacy Impact Assessment MRP Amazon Web Services General Support System*, September 2022, p. 17, https://www.usda.gov/sites/default/files/documents/mrp-aws-gss-pia.pdf.

[36] For the purposes of determining how long an eartag should remain in an animal in a physically functional state, APHIS defines the expected lifetime of cattle and bison to be 15 years.

The responsible entity or person must provide those records to the agency within 48 hours of receiving its request.

Stakeholder Feedback on the 2024 Final Rule

The three major national beef cattle producer organizations—the National Cattlemen's Beef Association (NCBA), the U.S. Cattlemen's Association (USCA), and R-CALF USA—have had varied reactions to the 2024 final rule.

In its response to the 2024 final rule NCBA, an organization representing the interests of all segments of the U.S. cattle and beef industry, stated that "an efficient animal disease traceability system" is needed "to avoid devastating financial losses during a potential outbreak and to help producers quickly return to commerce."[37] NCBA policy specifies that an "effective, nationally significant ADT program" should "work within a framework to accommodate all classes of cattle."[38]

USCA, whose membership comprises U.S. cattle producers, local meat processors, and livestock haulers, stated that it supports a "voluntary national animal ID program and opposes the establishment of a national mandate" and that the "industry requires more time to adapt and transfer to an all-electronic system."[39]

R-CALF USA, representing U.S. cattle and sheep producers, opposed the 2024 final rule, stating that it "infringes on the freedoms and liberties" of cattle producers and will "benefit multinational beef packers and multinational eartag manufacturers."[40]

Stakeholder Concerns About Electronic ID

Cost and Funding

Producers are required to come into compliance with the 2024 final rule. In its regulatory impact analysis for the 2024 final rule, APHIS estimates that the total average cost to the industry of purchasing EID eartags would range from approximately $28.9 million to $34 million.[41] Producers may also need to construct pens, chutes, or head catch gates to accurately capture EID information from individual animals.

[37] National Cattlemen's Beef Association (NCBA), "NCBA Statement on USDA Final Traceability Rule," April 26, 2024, https://www.ncba.org/ncba-news/news-releases/news/details/37749/ncba-statement-on-usda-final-traceability-rule.

[38] NCBA, *2024 Policy Book*, January 2024, p. 58, https://www.ncba.org/Media/NCBAorg/Docs/2024-ncba-policy-book-3.pdf (hereinafter 2024 NCBA Policy Book).

[39] U.S. Cattlemen's Association (USCA), "USCA Supports Animal ID System That Works for All Producers," January 23, 2024, https://uscattlemen.org/usca-supports-animal-id-system-that-works-for-all-producers/ (hereinafter 2024 USCA press release).

[40] Ranchers-Cattlemen Action Legal Fund United Stockgrowers of America (R-CALF USA), "R-CALF USA Statement on USDA's Final Rule to Require EID Eartags in Cattle," April 26, 2024, https://www.r-calfusa.com/r-calf-usa-statement-on-usdas-final-rule-to-require-eid-eartags-in-cattle/.

[41] USDA, APHIS, *Regulatory Impact Analysis & Final Regulatory Flexibility Analysis for Animal Disease Traceability; Electronic Identification*, APHIS-2021-0020-2012, May 9, 2024, https://www.regulations.gov/document/APHIS-2021-0020-2012.

As of October 1, 2023, APHIS had distributed approximately 22.5 million EID eartags to states as a voluntary alternative to non-EID metal eartags.[42] The EID eartags were provided at no cost to the states and are available as orange RFID official vaccination tags for use in heifers vaccinated for brucellosis or white RFID tags for nonvaccinated heifers. The Consolidated Appropriations Act, 2024, included report language providing $15 million for USDA to continue providing electronic eartags and reading infrastructure.[43]

EID eartag readers are required to receive the data attached to an individual animal. Stick readers can interpret LF RFID eartags. Dual readers, or readers that can interpret both LF and UHF eartags, are more costly. Through cooperative agreements between APHIS and state and tribal animal health officials, federal funds have been used to provide accredited veterinarians and livestock markets with free EID readers in certain circumstances. No federal or state funding assistance has been made available for individual producers to purchase an EID reader to manage their own records.

Confidentiality and Data Security

Some industry members have expressed concern about the confidentiality and security of their business data being scanned and stored electronically.

The Freedom of Information Act (FOIA) entitles members of the public to obtain some records held by federal agencies.[44] Some producers are concerned, for example, that adversarial domestic groups may access information gained through FOIA or that the data collection might reveal proprietary information.[45] FOIA exempts access to certain types of business information, such as trade secrets, commercial or financial information, and other confidential material that might harm the provider.[46]

Producers have raised concerns that information exempted from FOIA may not be exempted from subpoena.[47] If so, producer information could be released through a court's subpoena power as part of the discovery process in the course of litigation.

Some industry members expressed concern with the nature of the entities that control and store producer data. USCA asserts that there should be no private control of or access to producer data without the prior approval of the owner of the cattle at the time the official ID is applied. Further, USCA contends, "all official USDA tag information should be held in state animal health databases and shared with federal animal health officials only as needed."[48] In contrast, NCBA

[42] USDA, APHIS, *2025 USDA Explanatory Notes - APHIS*, pp. 22-28, https://www.usda.gov/sites/default/files/documents/22-APHIS-2025-ExNotes.pdf.

[43] Explanatory Statement for H.R. 4366 (P.L. 118-42, Consolidated Appropriations Act, 2024), Congressional Record, vol. 170, no. 39 (March 5, 2024), p. S1287 (html; pdf omits the APHIS heading).

[44] For more information, see CRS In Focus IF11450, *The Freedom of Information Act (FOIA): An Introduction*, by Benjamin M. Barczewski.

[45] Lee L. Schulz and Glynn T. Tonsor, "Cow-Calf Producer Perceptions Regarding Individual Animal Traceability," *Journal of Agricultural and Applied Economics*, vol. 42, no. 4 (January 26, 2015), p. 670 (hereinafter Schulz and Tonsor, 2015).

[46] For more information, see CRS Legal Sidebar LSB10294, *When Does the Government Have to Disclose Private Business Information in its Possession?*, by Daniel J. Sheffner.

[47] The National Agricultural Law Center, "Animal Identification & Tracing: An Overview," https://nationalaglawcenter.org/overview/animalid/.

[48] 2024 USCA Press Release.

supports the "expansion and development of the private, not-for-profit corporation, U.S. CattleTrace" as the "nationally significant solution for animal disease traceability."[49]

U.S. CattleTrace is a disease traceability initiative funded and governed by industry members.[50] In its 2023-2026 strategic plan, U.S. CattleTrace states that its goal is for all U.S. states to be using the initiative's database and technology as the sole contact tracing database by 2026. U.S. CattleTrace limits access to data to its staff.[51]

Some industry members say that holding producer information in a private entity governed by an appointed board could invite market manipulation. These industry members state that a private entity might not treat producer information as wholly confidential, whereas government entities must abide by certain rules when handling proprietary information. Should confidential or proprietary information on animal population numbers or geographic locations be released privately or publicly, they say, market participants could use that information to act in a way they might not have without access to that information.[52]

A 2007 report published by the National Institute of Standards and Technology provided several examples of the risks present in implementing and managing a successful RFID system.[53]

- In a process known as "cloning," an external party can read information from a legitimate RFID tag and then program another tag or device to emulate the behavior of the legitimate tag.
- An external party may remove a tag from the animal it is intended to identify and attach it to another animal.
- An external party may gain unauthorized access to the RFID system by eavesdropping on the radio frequency links between tags and readers, querying tags to obtain relevant data or hacking the backend database storing information on tagged animals.
- RFID relies on electromagnetic (EM) radiation to communicate. EM waves and signals can reflect, interfere, and resonate against metal items in their environment, which may cause ignition of combustible material.

The above risks may provide an opportunity for a domestic or foreign adversary to disrupt the U.S. food supply, either by emulating legitimate RFID signals and tags to confuse RFID systems or through the collection of sensitive market information that may be used to gain a competitive global trade advantage.

Six manufacturers have fulfilled the criteria set by the Official Animal Identification Device Standards (OAIDS) and been approved to sell EID eartags for cattle and bison.[54] Three of the six manufacturers are based in foreign countries: Australia, China, and the United Kingdom.[55] The

[49] 2024 NCBA Policy Book.

[50] U.S. CattleTrace, https://www.uscattletrace.org/.

[51] For more information on data privacy concerns, see CRS Report R47434, *Banking, Data Privacy, and Cybersecurity Regulation*, by Andrew P. Scott and Paul Tierno.

[52] Schulz and Tonsor, 2015.

[53] Tom T. Karygiannis et al., *Guidelines for Securing Radio Frequency Identification (RFID) Systems*, National Institute of Standards and Technology, April 6, 2007, https://www.nist.gov/publications/guidelines-securing-radio-frequency-identification-rfid-systems.

[54] For a list of criteria, see ADT General Standards.

[55] The six manufacturers approved to sell EID eartags for cattle and bison are Allflex USA, Inc., Datamars, Inc., Y-Tex Corporation, Leader Products (Australia), Wuxi FOFIA Technology Co., Ltd. (China), and Shearwell Data Limited (continued...)

OAIDS state that non-U.S. manufacturers seeking approval of an ID device must have a representative based in the United States that can serve as a device manager. An animal ID device manager accepts the responsibility to distribute official ID devices and maintain accurate distribution records in the AIMS.[56] The OAIDS do not specify requirements regarding where an EID eartag must be manufactured or the extent to which it be secured against cybersecurity risks.

Issues for Congress

To achieve an effective response to an animal disease outbreak, a certain rate of animal coverage is necessary. In 2009, USDA's chief veterinary officer for animal health estimated that 70% of the animals in a specific species need to be identifiable and traceable to their premises of origin in order to provide an improved measure of traceability. The USDA official suggested that a higher rate of animal coverage, perhaps as high as 90%, would be necessary to more quickly and precisely respond to an animal disease outbreak.[57]

A high rate of animal coverage is not achievable under the 2013 or 2024 final rule, as both rules cover some but not all classes of cattle and bison traveling interstate, or about 11% of the U.S. cattle herd. APHIS states that the 2024 final rule would improve the efficacy of the current ADT program and that "[t]he higher the number of animals that are traceable, the higher the likelihood that we are able to trace any particular instance of disease and effectively respond."[58]

Some Members of Congress have introduced legislation in the 118th Congress that would prevent the Secretary of Agriculture from implementing any rule requiring the mandatory use of EID for cattle or bison. Representative Harriet Hageman offered an amendment to the Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2024 (H.R. 4368), that would have prevented the use of funds to "finalize, implement, administer, or enforce the 2024 final rule.[59] Neither the amendment (with a vote count of 97-336) nor the underlying bill passed.[60] Senators John Barrasso and Cynthia Lummis proposed a similar funding prohibition to S.Amdt. 1092 to the Consolidated Appropriations Act, 2024 (H.R. 4366). Their measure was not considered.[61]

The Consolidated Appropriations Act, 2024, as enacted, included report language providing $15 million for USDA to continue providing electronic eartags and reading infrastructure.[62]

On May 8, 2024, Senator Mike Rounds introduced S. 4282 that would prohibit the Secretary of Agriculture from implementing any rule or regulation requiring the mandatory use of EID eartags on cattle and bison. On June 18, 2024, Senator Cynthia Lummis introduced S.J.Res. 98, a joint

(United Kingdom). USDA, APHIS, *Official Animal Identification Number (AIN) Devices with the "840" Prefix*, May 14, 2024, https://www.aphis.usda.gov/media/document/64512/file.

[56] USDA, APHIS, *How to Become an Animal Identification Device Manager*, 2023, https://www.aphis.usda.gov/sites/default/files/how-to-become-an-ain-device-manager.pdf.

[57] Testimony of Deputy Administrator for Veterinary Services Dr. John Clifford, APHIS, 2009.

[58] USDA, APHIS, "Use of Electronic Identification Eartags as Official Identification in Cattle and Bison," 89 *Federal Register* 39542, May 9, 2024.

[59] H.Amdt. 337 to H.R. 4368.

[60] CRS Insight IN12158, *Agriculture and Related Agencies: FY2024 Appropriations*.

[61] S.Amdt. 1244 to S.Amdt. 1092 to H.R. 4366, *Congressional Record*, daily edition, vol. 169, part 151 (September 19, 2023), pp. S4600-S4606.

[62] "Explanatory Statement Submitted by Mrs. Murray, Chair of the Senate Committee on Appropriations, Regarding H.R. 4366, Consolidated Appropriations Act, 2024," *Congressional Record*, daily edition, vol. 170, part 39 (March 5, 2024), p. S1223.

resolution under the Congressional Review Act (5 U.S.C. §801 et seq.) providing for congressional disapproval of the 2024 final rule.

If congressional interest in this topic were to continue, the following issues may be considered.

Cost of Electronic ID Infrastructure

APHIS has stated it is unable to commit to long-term funding of EID eartags and infrastructure due to uncertainties related to congressional appropriations and agency budgetary priorities.

Congress may consider whether and, if so, how widely to subsidize the cost of EID eartags. Costs of compliance may provide larger operations with a competitive advantage over smaller operations. For example, larger operations may benefit from economies of scale by bulk purchasing eartags and equipment and may be otherwise better positioned to absorb related implementation costs.

EID eartags require electronic readers. APHIS states it is supplying some readers to states through cooperative agreements.[63] Livestock markets frequently serve as official tagging sites for local producers. To address efficiency of and compliance with a national ADT program, Congress may consider continuing to provide funding for reading infrastructure and ensuring livestock markets would have access to those funds. If Congress deems that current funding efforts insufficiently support compliance, it could consider increasing that funding or otherwise altering APHIS programs. Congress could also establish grant programs to support producers based on herd size or status as a qualified beginning farmer or rancher.[64] Alternatively, Congress may deem current efforts costly and reduce funding.

Advances in Technology

Congress may also consider whether APHIS should establish a standard for EID technology that is compatible with other available technologies to avoid competing technologies creating a patchwork system of EID that might hinder disease traceback. In the 2024 final rule, APHIS remains neutral on which ADT technology is to be adopted by industry participants, an approach that may allow for the evolution of new technology to qualify as compliant with the rule. Congress may consider whether the agency should provide more guidance or be prescriptive to industry on the availability, benefits, and drawbacks of the current EID technologies.

Confidentiality and Data Security

The four largest meatpacking firms handle 85% of all steer and heifer purchases. Some Members of Congress have expressed interest in the vulnerabilities of highly concentrated industries. A security breach, such as a disruption of recordkeeping or a leak of confidential information in a highly concentrated industry, could have market repercussions. The revealing of identifying information could also lead to malicious acts on farms and ranches by, for example, groups that may be opposed to animal agriculture. To prevent unauthorized access to producer information, Congress may consider options limiting access to specific groups. For example, EID information

[63] Funding for cooperative agreements with states, territories, and tribes is separate from the funding provided through APHIS since 2020 to support EID tags and infrastructure. USDA, APHIS, "Use of Electronic Identification Eartags as Official Identification in Cattle and Bison," 89 *Federal Register* 39542, May 9, 2024.

[64] *Beginning farmers and ranchers* are defined as persons who have not operated a farm or ranch or who have operated a farm or ranch for not more than 10 years and meet other criteria as established by USDA (7 U.S.C. §2279). For more information, see CRS Report R47933, *Programs for Beginning, Limited Resource, Veteran, Socially Disadvantaged, and Tribal and Indigenous Farmers and Ranchers and for Small Farms and Ranches*, coordinated by Renée Johnson.

databases might be limited specifically to state or federal animal health officials for the purposes of disease traceability. Congress may also consider revising the range of information collected and retained for the purposes of ADT.[65]

[65] USDA APHIS maintains general contact information on individuals that are associated with a premises; specifically, name, address, company name, contact numbers, and email. All other information is in regard to the animals in the possession of the customers and collected during a disease or other health event. Such animal information collected includes specific systems that provided the information (i.e., premises data, animal ID manufacturers, and animal tracking institutions), premises ID, animal ID, date of event, event type, breed, and sex. USDA, *Privacy Impact Assessment, Marketing and Regulatory Programs Amazon Web Services General Support System*, Version 1.0, September 2022, pp. 6-7, https://www.usda.gov/sites/default/files/documents/mrp-aws-gss-pia.pdfhttps://www.usda.gov/sites/default/files/documents/mrp-aws-gss-pia.pdf.

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