

Advancing Animal Disease Traceability (ADT) Road Map for South Carolina

A Three-Year Plan

Submitted by:

MICHAEL J. NEAULT, DVM

**OFFICE OF THE SOUTH CAROLINA STATE VETERINARIAN
CLEMSON UNIVERSITY LIVESTOCK POULTRY HEALTH
500 CLEMSON ROAD, COLUMBIA, SOUTH CAROLINA 29229
(O): (803) 788-2260
URL: www.clemson.edu/LPH**

Submitted to:

**TOWANA GUINYARD, DVM
AREA VETERINARIAN FOR SOUTH CAROLINA
VETERINARY SERVICES
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE**

**ANIMAL AND PLANT HEALTH INSPECTION SERVICE
9600 TWO NOTCH RD, STE 10, COLUMBIA, SC 29223
(803) 462-2910
P: (803) 462-2929 | C: (803) 201-8978**

Date: September 10, 2025

Table of Contents

I.	EXECUTIVE SUMMARY	3
II.	CURRENT TRACEABILITY SITUATION	4
2.1	<i>Who are we?</i>	4
2.2	<i>Where are we now?</i>	4
2.3	<i>Strengths and Weaknesses</i>	5
2.4	<i>Opportunities and Threats</i>	6
2.5	<i>Inventory of existing infrastructure and suitability assessment</i>	7
III.	VISION AND MISSION CONTEXT FOR ADVANCING TRACEABILITY	9
3.1	<i>Vision Statement</i>	9
3.2	<i>Mission Statement</i>	9
IV.	TRACEABILITY REQUIREMENTS	9
4.1	<i>Strategic goals</i>	9
4.2	<i>Programmatic goals (objectives)</i>	9
4.3	<i>ADT Trace Performance Measures (TPMs)</i>	9
4.4	<i>Data requirements</i>	10
4.5	<i>Information technology plan</i>	11
4.6	<i>Resource requirements</i>	11
4.7	<i>Organizational needs</i>	11
4.7.1	<i>Executive support</i>	11
4.7.2	<i>Coordination and oversight procedures</i>	11
4.7.3	<i>Policy</i>	11
4.7.4	<i>Staffing</i>	12
4.7.5	<i>Budget requirements</i>	12
4.7.6	<i>Outreach</i>	12
4.8	<i>Monitoring and reporting interstate movement activity</i>	13
V.	ADVANCING TRACEABILITY	14
5.1	<i>Ranking of priorities for advancement</i>	14
5.2	<i>Implementation of objectives</i>	14

I. EXECUTIVE SUMMARY

The primary mission of the South Carolina Animal Disease Traceability (ADT) Program is to protect the health and marketability of South Carolina livestock. Many of the identifiers, tags, and other aspects of the ADT program may add value to other aspects of livestock production. Secondary uses that directly relate to animal disease control and prevention require diligent protection of producer confidentiality. We encourage these other legitimate uses with the explicit approval of the producers. We believe that a successful ADT program operating at the “speed of commerce” will add significant value to our state’s livestock. Large investments in time and money require proven future “value added” for acceptance. We believe the value of animal disease traceability will be proportional to the extent of willing participation by all industry stakeholders: producers, markets, dealers, etc. This document represents the best strategy for South Carolina to improve traceability capabilities. This is a living document that will have revisions as new requirements, technologies, and implementation methods develop.

Primary responsibility for the South Carolina Animal Disease Traceability program rests with the State Veterinarian and staff of Clemson University Livestock-Poultry Health Department (LPH). However, program success is dependent upon collaboration and effort by all members of the animal agriculture community. The South Carolina Animal Disease Traceability Steering Committee formalizes this relationship and provides input to the State Veterinarian on the direction of the Animal Disease Traceability program and key program-related decisions. The group is instrumental in ensuring that the program remains focused on its key guiding principles.

A robust system for capturing and storing animal traceability data is in place, involving:

- Import permitting system,
- Interstate Certificates of Veterinary Inspection (ICVI) for imports and exports,
- Change-of-ownership identification data on breeding cattle,
- Back tag reports from auction markets,
- Program disease test and vaccination records,
- Official tag distribution and application records are maintained by accredited veterinarians, USDA APHIS VS, and LPH,
- Access to USDA APHIS VS databases and emergency response systems, and
- Sales records of livestock auction markets and dealers.

USDA APHIS VS Cooperative Agreement funds and State funds have advanced animal disease traceability since 2005. Federal funds have enhanced traceability in South Carolina by supporting outreach and education initiatives, providing personnel for data entry and maintenance, and supplying low-frequency radio identification tags and equipment for electronic data capture and management.

The following roadmap outlines a plan to advance animal disease traceability in South Carolina, continuing to encompass outreach and education, data collection and storage, data quality monitoring and improvement, data searchability evaluation, and enhanced electronic data capture and storage.

II. CURRENT TRACEABILITY SITUATION

2.1 Who are we?

South Carolina's Animal Disease Traceability (ADT) Steering Committee has representatives from LPH, USDA APHIS VS District 1, priority species producers and industry groups, Clemson University Cooperative Extension Service (CUCES), South Carolina State University, Extension Service, and other interested state and federal governmental agencies. The South Carolina Traceability Steering Committee meets in person as necessary and receives email updates as needed.

Traceability data is used for disease control and eradication, as well as for NASS data, animal import and export data, and statistical analysis for budgeting purposes.

The ADT system in South Carolina is measured by the ability to locate animals and premises involved in disease investigations in a timely, efficient, and complete manner.

2.2 Where are we now?

The ADT system in South Carolina is measured by the ability to locate animals and premises involved in disease investigations in a timely, efficient, and complete manner.

Traceability data is used for disease control and eradication, as well as for NASS data, animal import and export data, and statistical analysis for budgeting purposes.

In the 2022 roadmap update, we reported 6,763 registered premises in the state database. In 2025, premises identification registration increased to 11,554 premises in South Carolina.

LPH's electronic and paper records offer effective ADT and search capabilities. LPH is in the process of switching databases from Acclaim's USAHERDS to Trace First's CoreOne.

LPH maintains a good working relationship with all federal and state regulatory agencies and external stakeholders listed to share ADT data.

ADT information in South Carolina is available during and outside of office hours by contacting staff veterinarians by phone, fax, or email.

Federal funding supports LPH's efforts to provide outreach and education activities, distribute free RFID ear tags to producers and markets, collect and store data, and hire personnel to implement this plan.

2.3 Strengths and Weaknesses

Strengths:

The State Veterinarian's office at LPH includes three departments: Animal Health Programs (AHP), the South Carolina Meat Poultry Inspection Department (SCMPID), and the Clemson Veterinary Diagnostic Center (CVDC). These departments share a facility in Columbia, South Carolina.

LPH has most of the essential human and technical resources needed. Staff include experts in traceability, data standards, poultry, and swine identification, etc.

Adequate search ability currently exists in files and databases maintained by and accessible to the LPH staff. These files provide quick access to animal identification, location, and owner contact information. When all essential data pieces are present, adequate traceability can be achieved in minutes when tracing a reference animal. Tracing exposed and other at-risk animals can be completed within hours to days. However, traceability may be unattainable when crucial pieces of information are missing. Non-compliance with requirements can lead to significant interference with the completeness of animal health data.

Challenges:

Each of the resources above is the bare minimum, one-deep, and usually multi-tasked between many responsibilities. This is true of both human and virtual resources. The LPH server hosts four virtual servers providing five different full application environments. There are no failover capabilities beyond off-site backups of data.

Infrastructure for livestock markets and challenges from the workforce are concerns. Lack of internet resources still affects areas of South Carolina.

Many data points necessary for an animal disease investigation are recorded and stored in paper and electronic files. Traceability is compromised when information is missing, often due to non-compliance with regulations.

Non-compliance contributes to gaps in traceability, resulting in incomplete records or a total absence of essential animal health data. Outreach and education are necessary to inform all stakeholders of the importance of their contributions to achieving effective and efficient traceability.

Progress has been made in the volume and quality of information collected and stored in paper and electronic formats. Increased electronically collected and stored animal health data is necessary to enhance traceability efficiency. Outreach and education will encourage stakeholders to use electronic means to submit animal movement data to the LPH. Updated equipment and software for electronic data collection and transfer may be required at markets as more information is submitted electronically. The new database may increase searchability and connect better to report it to USDA VS.

2.4 Opportunities and Threats

Opportunities

South Carolina has several special opportunities identified as we look forward to traceability. Industry groups have shown interest in assisting with traceability in South Carolina by exploring possibilities for making the producer information they hold available in an animal disease event. The South Carolina Cattlemen's Association is a member of the Southeast Livestock Network (SELN). SELN has had discussions in the past on how data from their age and source verification marketing programs might be made available in an animal disease event. This opportunity still holds promise and would be consistent with South Carolina's guiding principle of avoiding duplication. The SELN also raised the idea of initiating consistent intrastate identification regulations and laws in its member states and hopes to work with state veterinarians to produce draft documents for this purpose. SELN has not been active recently but may become more active going forward. South Carolina is open to this opportunity should South Carolina stakeholders show interest in this concept.

South Carolina has an opportunity to explore innovations in identification, data capture, and transmission and storage of data due to the lower volume of livestock routinely handled in our markets compared to those in the Midwest, which can accommodate a trial. South Carolina has strength in our current ability to trace swine and poultry, including a higher-than-average percentage of backyard poultry, thanks to the collaborative commitment of these industries to work with us on traceability. South Carolina continues to focus on cattle, especially beef cattle of breeding age, under this strategic plan.

Obstacles

Confidentiality remains a primary concern of South Carolina stakeholders. Along with USDA APHIS VS, South Carolina has always maintained and assured the confidentiality of stakeholder information. Working with our constituents, LPH proposed and successfully achieved legislation in 2012 to clearly establish the confidentiality of this information in South Carolina (SC Code of Laws §47-4-170).

We believe it is a fundamental part of the plan to develop consequences for those who do not abide by the regulations implemented to ensure our poultry and livestock continue to thrive. South Carolina will collaborate with USDA APHIS VS on monitoring and enforcement of proper use of official animal identification, proper use of and accurate documentation on ICVIs, and appropriate collection of animal ID at slaughter.

Compatibility between tag technologies is an essential component of the new strategy. Providing industries with the choice of which tag type works best for their operations could limit the interoperability of tagging systems and negatively impact the speed of commerce if consistency between tag types is not established.

Adequate funding for animal disease traceability remains an issue for South Carolina. Transitioning from NUES tags to electronic identification may require financial assistance to the producer or livestock markets through either cost-sharing for electronic tags and/or infrastructure to read EIDs at markets and elsewhere. The proposed elimination of the USDA providing free tags for cattle (NUES) and the resulting new cost to producers is not likely to be well-received. The provision of a limited number of no-cost RFID tags has been a significant help in this area, but it is not promised to continue indefinitely. Additional discussions at the state and national levels are necessary to determine the best approach for minimizing the economic impact of the new system on the industry.

South Carolina producers and allied industry concerns about the impact of ADT requirements on their profit/loss bottom line persist. In addition, there are those who have a basic distrust of government at any level, especially the federal level. We must recognize that these individuals remain potential obstacles to a fully successful system.

USDA VS staff being removed from sale and livestock market activities.

Adequate cybersecurity is always a concern to protect confidential information.

2.5 Inventory of existing infrastructure and suitability assessment

The State Veterinarian is ultimately responsible for all traceability activities.

An LPH Epidemiologist is being hired to assist with traceability activities. The AHP Director of Field Services is a veterinarian who also reports directly to the State Veterinarian. In addition to the Field Services Director, AHP currently (September 2025) has a staff of three (3) veterinarians and two (1) administrative staff people at the main office and three (3) livestock law enforcement officers, one (1) livestock inspector in the field, one (1) poultry inspector in the field, and one (1) livestock inspector for traceability. A significant portion of the AHP administrative staff person's duties relate directly to animal disease traceability, including managing interstate certificates of veterinary inspections, ICVIs, (by scanning ICVIs and data entry to the in-house database), movement permits, market permits and reports. As a larger portion of ICVIs become electronic and more swine movement permits shift to swine herd plan electronic records, the workflow is shifting from data-entry to data quality monitoring of those electronic records. One livestock inspector specializing in traceability was added in 2018 to focus on increasing the usage of electronic CVIs (eCVIs) and electronic identification. This inspector also works with the State

Veterinarian's Administrative Coordinator to complete traceability-related tasks to include processing premises registrations and exceptions, as well as processing AIN (Tag) distributions. All AHP veterinarians work to monitor animal health, enforce the laws and regulations of South Carolina, and educate stakeholders and the public. Each veterinarian has a specialty or area of interest (beef, dairy, swine, poultry, equine, small ruminants, and emergency preparedness) and is heavily invested in traceability activities.

The six (6) AHP field staff (law enforcement officers and inspectors) actively monitor livestock movement activities, including all activities at livestock markets. Each fulfills duties as an educator, animal health technician, and law enforcement officer. They facilitate compliance by performing animal health technical duties, such as disease testing, market inspection, and animal identification. The Director of Animal Health Programs Field Services supervises and leads their field activities.

AHP maintains an inventory of RFID tags distributed in South Carolina. For creating records correlating backtags to RFID tags, we have the following items in our inventory:

- One Allflex LDC-V100 Livestock Logger,
- Twenty-one Agrident AWR300 Wand Readers,
 - Seven are available for use in our loan program to veterinarians, producers, markets, etc.
 - Five are with the LPH Animal Health Program staff
 - Three are on loan to markets
 - Five are on loan to Extension agents
 - One is on loan to a packer
- One Allflex RS420-60 RFID wand reader,
- One PD7100 barcode reader,
- One Destron DTR3e Wand RFID reader,
- Two Aleis-Multi A system panel readers installed in markets,
- One AVID handheld scanner, and
- One iMAX handheld scanner.

We also have a small inventory of “silver brite” tags and EIDs for disease program work.

The USDA APHIS VS Cooperative Agreement funding continues to support a significant portion of the current traceability activities. Additionally, USDA APHIS VS supplies 840 RFID tags to a replacement breeding cattle identification program initiated in 2020.

Using ADT supplemental funding, we purchased additional wand readers to provide to livestock markets. Funding is still required to continue this with livestock markets to support a more feasible ADT infrastructure to address the speed of commerce needs in times of quiet, and especially in times of disease or infestation events.

III. VISION AND MISSION CONTEXT FOR ADVANCING TRACEABILITY

3.1 Vision Statement

A functional animal disease traceability system in South Carolina will efficiently gather essential data before and during an animal disease event. It will enable animal health officials to effectively track animal movements, identify exposed and at-risk animals, and obtain contact information for individuals who need to be informed. Ideally, initial location identification and identification of exposed animals are successful within minutes to hours of notification.

3.2 Mission Statement

The LPH mission is to enhance the completeness, accuracy, and timeliness of animal traceability data, enabling effective and timely traceability of livestock and safeguarding the health and viability of the South Carolina livestock industry and meat and poultry industries.

IV. TRACEABILITY REQUIREMENTS

4.1 Strategic goals

To continue developing, implementing, and enhancing a Statewide infrastructure for advancing animal disease traceability that is compatible with State and USDA standards.

4.2 Programmatic goals (objectives)

September 2025 to March 2028:

- Outreach and education,
- Advisory committee as needed,
- Monitor compliance,
- Monitor ICVI data quality,
- Continue to maintain, evaluate, and improve the traceability data systems,
- Continue to increase the use of electronic data submission (e.g., ICVIs, change of ownership, backtag reports, etc.),
- Continue to distribute RFID tags to producers and markets,
- Continue to loan RFID tag readers to markets, producers, veterinarians, etc.
- Continue to increase premises identification registration numbers, and
- Switching from USAHERDS to CoreOne as our primary database.

4.3 ADT Trace Performance Measures (TPMs)

LPH is prepared to continue entering the previous USDA trace performance measures into EMRS until they are revised. These include:

- a) The time required for South Carolina to determine the State where an animal of interest was officially identified and to notify the State of the official ID number.

- b) The time required for South Carolina to confirm that we issued an official ID number of interest and to locate the contact information associated with the number.
- c) The time required for South Carolina to determine the State from which an animal of interest was moved interstate into South Carolina, and to notify that State of the animal's official ID number.
- d) The time required for South Carolina to determine the address or location from which an animal of interest was shipped from South Carolina to another State.

4.4 Data requirements

Import ICVI: All information gathered by the import permitting system is stored in the LPH USAHERD (soon to be the CoreOne) database. The date of receipt is compared to the date of issue. The completeness of each ICVI is verified by staff.

Export ICVI: The paper and electronic ICVIs received are filed either electronically or in hard copy. LPH enters information into the export ICVI database. Plans to eliminate paper ICVIs are being discussed.

Change-of-ownership reports: Staff enter data received in hard copy or electronically into the LPH USAHERDS (soon to be the CoreOne) database. If applicable, the change-of-ownership information is electronically searchable, including the date sold, owner, individual official ID, and sale barn.

Program disease activity: Data is received electronically and in hard copy format. LPH staff and VS staff enter test data into the SCS.

Backtag reports: Data is received electronically and in hard copy. LPH staff enter the date, individual tags, owner, and auction market into the USAHERDS (soon to be the CoreOne) database.

As data is entered into the above databases, the timeliness, completeness, and accuracy of submitted records are evaluated. Veterinarians and auction markets are notified and guided on proper record submission, including the federal requirement that ICVIs be submitted within seven calendar days.

Location identification: LPH utilizes the USAHERDS (soon to be the CoreOne) database to assign premises identification, including and utilizes EMRS2, AIMS, and the Scrapie Flock Identification System.

South Carolina allows the distribution of AIN tags beyond the scope of program disease work. Accredited veterinarians and producers may apply to receive AIN tags. Accredited veterinarians may distribute AIN tags to producers. Accredited veterinarians will maintain records of tag distribution and application, enter tag distribution information into AIMS, or submit documents to LPH for maintenance.

4.5 Information technology plan

LPH is transitioning from USAHERDS to CoreOne. LPH staff maintain the database information with technical assistance from the office IT staff.

LPH is utilizing a Civet program to automatically import ICVIs into USAHERDS, and will be utilizing third-party programs, including, and not limited to, AgView, RABapp, etc., to import appropriate data into the new database. All platforms utilize the USAHA eCVI XML Data Standards.

4.6 Resource requirements

Automated data capture equipment and resources may be needed as more veterinarians and auction markets explore electronic data capture options. When USDA ADT supplemental funding existed, this was instrumental in helping move this forward.

4.7 Organizational needs

4.7.1 Executive support

All LPH, South Carolina state agencies (e.g., South Carolina Department of Agriculture, South Carolina Department of Natural Resources, etc.) and Clemson University executive leadership are aware of the need for animal disease traceability.

4.7.2 Coordination and oversight procedures

Primary responsibility for the South Carolina Animal Disease Traceability program rests with the State Veterinarian and staff of LPH. However, program success is dependent upon collaboration and effort by all members of the animal agriculture community. The South Carolina Animal Disease Traceability Steering Committee formalizes this relationship and provides input to the State Veterinarian on the direction of the Animal Disease Traceability program and key program-related decisions. The group is instrumental in ensuring that the program remains focused on its key guiding principles.

4.7.3 Policy

The Code of Laws of South Carolina 1976, Title §47 and the South Carolina Code of State Regulations §R27 authorize LPH to provide for the development and implementation of animal identification programs to maintain animal health and ensure the safety of the food supply.

The ADT rule, which was published in March 2013, established federal standards for the interstate movement of livestock. The 2024 ADT rule requires cattle and bison to have official electronic identification that is both visually and electronically readable.

4.7.4 Staffing

LPH has an ADT veterinarian program director on staff in the Columbia office who coordinates and oversees the collection, maintenance, storage, and availability of traceability data.

LPH compliance officers oversee or participate in compliance and investigation of traceability events in the field.

Office staff personnel will perform assigned duties to assign premises identification numbers and gather, enter, and file traceability data.

4.7.5 Budget requirements

South Carolina animal disease traceability is funded using both State and Federal funds. In 2025-26, USDA APHIS VS cooperative agreement funding provides \$84,6931 annually to support LPH animal disease traceability goals.

Continued federal financial support is important to continue to promote a national program. Knowing a timeline for when federal changes to the 9 CFR will occur, addressing a more standardized official tag (e.g., electronic identification only with retirement of NUES tags) will help to establish better timelines for projects with external stakeholders and development by veterinary and livestock market vendors to track and report dates to state and federal agencies.

4.7.6 Outreach

The successful implementation of any plan to advance ADT cannot be achieved without outreach to constituents primarily affected by the plan.

4.7.6.1 Accredited veterinarians

Continue outreach to accredited veterinarians advancing use of eCVIs, promoting EID usage, traceability program education, proper ICVI completion refresher trainings and official tag inventory and reporting procedures. Outreach is made through (and not limited to) direct contact, emails or paper mail, social media, website, and through state veterinary medical and livestock association meetings.

LPH will continue to work with accredited veterinarians and producers to distribute the free tags issued to the state associated with the USDA breeding replacement RFID tag program.

4.7.6.2 *Slaughter plants*

LPH is home to the South Carolina Meat Poultry Inspection Department and has good relationships with state-inspected and crossover plants. USDA VS South Carolina office has relationships with the federally inspected plants. Communication channels exist to request and access records from plants.

During the Road Map's operational period, LPH will communicate with slaughter plants to listen and address (as able) their concerns.

LPH has a data logger in a South Carolina plant to capture RFID tag information and retire tags in slaughtered animals.

4.7.6.3 *Industry as a whole*

USDA APHIS VS has been conducting a dialogue with state animal health officials, producers and other industry representatives about what the next steps should be nationally for ADT, especially in cattle. South Carolina participates in these discussions and keeps our South Carolina stakeholders informed. In South Carolina, we have seen significant progress in our ability to trace cattle more effectively and efficiently, as described earlier in this plan. The traceability program is essential to safeguarding the health and economic well-being of the livestock industry.

4.8 **Monitoring and reporting interstate movement activity**

All electronic CVIs are imported directly to the LPH database using the AAVLD/USAHA data standard. Paper ICVIs are converted to the standard data format with the scanned PDF attached and key traceability data transcribed using the Civet software developed at LPH and available to all states free of charge.

Paper ICVIs are checked for errors during data transcription, with errors recorded in the database via Civet. Electronic CVIs are checked periodically by LPH staff using a USAHERDS feature developed for LPH that allows recording review data, searching for unreviewed CVIs.

The following data are tracked and available upon request.

- Number of ICVIs and other interstate movement documents created within the State/Tribe/Territory on a year-to-date basis for move-out animals

- Number of ICVIs and other interstate movement documents received for move-in animals
- Number of animals by species and class for move-in events associated with ICVIs and other interstate movement documents, indicating the number of animals officially identified and the number not officially identified
- Number of animals by species and class for move-out events associated with ICVIs and other interstate movement documents, indicating the number of animals officially identified and the number not officially identified
- Volume of distribution for each official numbering system/device issued by the State/Tribe/Territory and/or AVIC office, including backtags by market or slaughter facility.

V. ADVANCING TRACEABILITY

5.1 Ranking of priorities for advancement

Priorities for advancement from 2025-2028 are:

1. Maintain, assess, and update our traceability databases and fully utilize the capabilities as we transition to CoreOne.
2. Increase the use of electronic data submission
3. Continue outreach and education
4. Monitor compliance

Moving forward, the development and implementation of a cost-sharing or other infrastructure development financial aid support program that minimizes the financial impact of the cost of infrastructure to read EIDs and the cost of switching to only EIDs as official identification for cattle and other livestock species is important. We have concerns about the impact that the expansion of individual ID requirements for feeder cattle may have on the speed of commerce in our markets and elsewhere, one of our core principles. This strategic plan will be revisited and adjusted as appropriate should USDA APHIS VS reach a final decision or publish a new rule because of the current dialogues.

5.2 Implementation of objectives

- Outreach and education,
- Switching from USAHERDS to CoreOne as our primary database,
- Continue to maintain, evaluate, and improve the traceability data systems,
- Monitor compliance,
- Monitor ICVI data quality,
- Continue to increase the use of electronic data submission (e.g., ICVIs, change of ownership, backtag reports, etc.),
- Continue to distribute RFID tags to producers and markets,
- Continue to loan RFID tag readers to markets, producers, veterinarians, etc.
- Continue to increase premises identification registration numbers, and
- Advisory committee meeting(s) as needed.