

Advancing Animal Disease Traceability Road Map for Pennsylvania

A Three-Year Plan

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Contents

- I. Executive Summary 1
- II. Current Traceability Situation 2
 - 2.1 Who are we?.....2**
 - 2.2 Where are we now?3**
 - I. IDENTIFICATION DISTRIBUTION AND ASSIGNMENT 4
 - II. PREMISES REGISTRATION 4
 - 2.3 Strengths and Weaknesses7**
 - 2.4 Opportunities and Threats9**
 - 2.5 Inventory of Existing Infrastructure.....9**
- III. Vision and Mission context for Traceability 10
- IV. Traceability Requirements 10
 - 4.1 Strategic Goals10**
 - 4.2 Programmatic Goals12**
 - 4.3 Animal Disease Traceability Performance Measures12**
 - 4.4 Data Requirements.....14**
 - 4.5 Information Technology Plan15**
 - 4.6 Executive Support15**
 - 4.7 Coordination and Oversight Procedure15**
 - 4.7.1 Policy 15
 - 4.7.2 Staffing 16
 - 4.7.3 Budget 16
 - 4.7.4 Outreach 16
 - 4.8 Monitoring and Reporting Interstate Movement Activity17**
- V. Traceability Implementation 17
 - 5.1 Ranking of Priorities for Advancement.....17**

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I. Executive Summary

The Advancing Animal Disease Traceability Road Map for Pennsylvania addresses Pennsylvania's plan for the time period of 2018 – 2021 for enhancing the animal disease traceability (ADT) system for livestock within the state. This road map is a continuation and revision of The Advancing Animal Disease Traceability Road Map for 2015 – 2018.

Animal Disease Traceability, which is an essential tool for both state and federal animal health officials in the control and eradication of dangerous transmissible animal diseases, and in the management of disease outbreaks. In order to continue progress towards an acceptably accurate, timely and effective system for animal disease traceability the following elements need to continue to be adopted:

- ... A high application rate of accurately databased animal identification devices, including both radio frequency identification (RFID) tags and National Uniform Eartagging System (NUES) tags, to livestock populations statewide.
- ... A comprehensive electronic database of premises where livestock is maintained, with corresponding geographic coordinates (lat/long) for each.
- ... The ability to rapidly search electronic databases for records of official identification devices; where they have been distributed and/or applied; and where they were sighted from animal disease testing, disease program, or animal movement documents.

Additionally, the following elements need to be adopted to advance our current animal disease traceability system:

- ... Adoption of RFID devices for animals currently receiving NUES tags, in accordance with the plan created by the ADT working group in 2017.
- ... Adoption of both electronic Certificates of Veterinary Inspection (CVIs) and Coggins tests to better receive animal movement and disease information in real time.
- ... Accountability, statewide, for producers, official tagging sites, dealer/haulers and veterinarians who are receiving these tags, to maintain an accurate electronic database system.

Traditional systems employing conventional labor-intensive record keeping practices have, and continue to serve animal disease control and eradications. However, the ever-changing climate of rapid and high-volume intrastate, interstate, and international livestock movement has pressured the past systems to change. With larger animal production units, high-speed travel and long-distance travel, the potential risk of an animal-borne health crisis effecting animal health as well as public health continues to increase. Therefore, Pennsylvania must continue to adopt current technology at all levels of ADT to address

potential disease risks in present-day animal movement, production, and management systems.

Due to the large impact agriculture has within the state of Pennsylvania, it is vital that a highly functional animal disease tracing capability exists to avoid significant economic loss to farmers, as well as the potential to impact human health.

II. Current Traceability Situation

2.1 Who are we?

The Pennsylvania Department of Agriculture, Bureau of Animal Health and Diagnostic Services (BAHDS) is responsible for the control and eradication of disease in livestock and poultry statewide. In the Bureau's mission to ensure and protect both animal and human health, we are closely aligned with the Pennsylvania Animal Health and Diagnostic Commission (AHDC), whose members range from practicing veterinarians and regulatory health officials to livestock producers. BAHDS activities, with the inclusion of ADT, are reported to the AHDC during bimonthly commission meetings.

To effectively carry out its animal health mission, BAHDS has closely aligned itself with the Pennsylvania Animal Diagnostic Laboratory System (PADLS), which includes two university laboratories, and a third veterinary laboratory facility (Pennsylvania Vet Lab) in Harrisburg that is one BAHDS' four divisions.

Pennsylvania livestock producers are the primary internal constituents of the Pennsylvania Animal Disease Traceability Plan. Closely associated are the USDA accredited veterinarians who serve these constituents and assist animal health protection through their activities in disease programs on-farm and in animal commerce.

External constituents include the two dairy herd improvement associations (DHIAs), licensed livestock dealers and haulers, and over 40 USDA-approved livestock markets and official approved tagging sites, all operating within Pennsylvania. Additionally, all out-of-state individuals entering the state for purposes of animal commerce, exhibition, and recreation are also external constituents. In this road map, the term 'statewide' applies to all livestock and poultry premises, commerce, exhibitions and other venues within the borders of the Commonwealth of Pennsylvania.

In our commitment to the health and protection of Pennsylvania's livestock and poultry industries, BAHDS performs animal disease traceability outreach to all related organizations comprising the animal health stakeholder community. Some of these organizations include:

- ... Pennsylvania Veterinary Medical Association
- ... PennAg Industries
- ... Lancaster Dairy Herd Improvement Association
- ... Dairy One, Inc.
- ... Pennsylvania Milk Producers Association
- ... Pennsylvania Livestock Association
- ... Pennsylvania Cattlemen's Association
- ... Pennsylvania Beef Council
- ... Pennsylvania Farm Bureau
- ... Pennsylvania Farmers' Union
- ... Pennsylvania Deer Farmers Association
- ... Livestock Marketing Association

2.2 Where are we now?

Animal Disease Traceability is defined as the ability to accurately and efficiently track livestock for disease control purposes, including the origin location of diseased animals and identification of trace-back and trace-forward exposed animals. It is an integral component of a comprehensive and successful animal health information system. It includes the integration of data from multiple different sources, including premises data, animal identification device information, movement documentation data and radio frequency identification panel reads from livestock auctions. When this information is used in a coordinated manner, it creates a successful animal disease traceability system. In the early days of Pennsylvania's first ADT road map, our potential sources of trace information were limited because official identification of livestock was not implemented as a requirement for livestock populations and off-premises movement. Most official identification at the time was applied to animals by veterinarians and was limited to official disease programs and cervid program use. Movement documents received by the state often had non-official animal identification, such as registration certificates, breed association tattoos, or farm identification tags. Through the course of the 2015 – 2018 road map, we have begun the wider use and distribution of both NUES and RFID tags. We have also implemented greater official identification requirements for animal movement, sale, and exhibition. As technology continues to become more prevalent within agriculture, the PDA has slowly begun to implement changes to meet the current speed of commerce.

Efforts during the 2015 – 2018 period have included the following:

I. **IDENTIFICATION DISTRIBUTION AND ASSIGNMENT** - NUES tags continued to be distributed to Pennsylvania livestock producers, approved official tagging sites, accredited level II veterinarians and the two Dairy Herd Improvement Associations who disseminated tags across the state upon request. Livestock markets and dealers, who are identified as approved official tagging sites, receive tags directly from the PDA’s regional staff. Distribution and application of official identification devices by the above entities is reported to BAHDS, where data is maintained in the USAHERDS database.

Tag distribution and application agreements are in place to require that the submitter send in their tag application/distribution records. These agreements can be sent in electronically, which increases our speed of data entry. When tags are distributed, so are reminders regarding the responsibilities of mandatory record keeping of these tags. Failure to report application/distribution of official identification results in the suspension or elimination of tag distribution in its entirety. This ensures the party receiving tags is held accountable for the tags they have distributed and/or applied.

The official brucellosis calthood vaccination (OCV) tag initiative has continued; however, the addition of OCV RFID tags has made the initiative even more valuable. As RFID requirements continue to spread, more veterinarians are requesting these tags from the PDA. The continued use of these tags over metal vaccination tags provides an excellent opportunity to apply disease program associated official identification to calves on their birth premises, and thus promotes the use of RFID technology.

840 RFID tags were also distributed to premises regularly when the PDA had them in stock. The requirements of receiving these tags were to have a Federal PIN or State LID per the AIN management system. Tag distribution counts are listed below from 2015 – 2018 (present).

| Year | NUES Tags | RFID Tags | Metal Brucellosis Tags | RFID Brucellosis Tags | Total Tags |
|------|-----------|-----------|------------------------|-----------------------|---------------|
| 2015 | 209327 | 14545 | 14710 | 3580 | 242162 |
| 2016 | 138350 | 3050 | 11795 | 3545 | 156740 |
| 2017 | 98754 | 5310 | 10120 | 3570 | 117754 |
| 2018 | 74604 | 661 | 6965 | 1940 | 84170 |

II. **PREMISES REGISTRATION** – The assignment of premises identification numbers including Federal Premises Identification Numbers (PINs) and State Location Identifiers (LIDs) and associating them with the assignment of official identification devices has enabled the BAHDS to better link identification devices to their premises of origin, thus improving animal disease traceability. The principal premises identifier assigned in

Pennsylvania is the Federal Premises Identification Number (PIN). BAHDS continued to update and register new premises upon request. Additionally, new premises registration sheets were created to obtain further information from the registrants on the species and number per species located on their property. By gathering more detailed information about these premises, BAHDS has been able to slowly update information within USAHERDS to increase accuracy of data. Through continuous registration updates, a more accurate and up-to-date database will form. Counts for newly registered premises are listed below from 2015 – 2018 (present).

| Year | Premises Identification Numbers Assigned |
|------|--|
| 2015 | 1860 |
| 2016 | 2185 |
| 2017 | 1170 |
| 2018 | 140 |

- III. OUTREACH** – Educational efforts to inform livestock stakeholders on procedures for assignment, application, compliant use, and documentation continue. Discussion with dealer/haulers, livestock markets and other entities continue to increase ADT compliance statewide. Most of this activity is occurring as field staff encounters noncompliant members of these groups at livestock markets, shows, fairs and other events. The ADT coordinator remains in contact with current official approved tagging sites to ensure appropriate tagging procedures are taking place. Field staff continue to provide information to producers, veterinarians and livestock markets as time permits and upon request. Informational postings and updates continue to be made to the PA Department of Agriculture website as needed to aid in the distribution of information and remain a resource for the public.
- IV. TAGGING SITES** - Since their implementation in 2014, official tagging sites continue to operate at certain markets and dealer locations throughout Pennsylvania, where out-of-state animals who meet specific documentation requirements are received and officially identified. These sites continue to use tag reporting forms to provide accurate and complete tag application information. Currently, within Pennsylvania, there are 46 official tagging sites, including most USDA approved livestock markets.
- V. TECHNOLOGY** - BAHDS has significant data storage capacity in its USAHERDS database. USAHERDS continues to be the sole database used by the Pennsylvania Department of Agriculture to enter information regarding the movement of animals, tag distribution, and a myriad of other pertinent information involving animal health and travel within the state of Pennsylvania. All data within this database falls under the control of the

Bureau and is subject to the Pennsylvania Right to Know Law. Requests for data outside normal working hours are addressed the following working day except for any requests associated with an emergency animal disease event where staff would be made available for weekend/after-hours work.

The state continues to make upgrades and maintains the USAHERDS database. The collaboration between BAHDS and other HERDS user states to identify potentially expandable capabilities in the application of the database continues on a regular basis and is an integral part of improving ADT within the state. By participating in USAHERDS conference calls (both informative and demonstrative) BAHDS is able to make its own contributions as well. This database system allows the state to successfully complete tracebacks accurately and under time constraints.

The state has made improvements to the system that was previously in place until late 2017 regarding the information storing/sharing of the import and export movement of animals in the state. BAHDS introduced the mobile application, 'mCVI'. This new application allows the state to receive data regarding animal movement in real time. The application also automatically integrates all CVI data developed from the use of the application into USAHERDS. At this time mCVI does not accrue any additional fees for the state and is currently in use by 38 other states in the nation. This is a huge step forward for BAHDS in the ability to obtain animal movement information in real time.

New RFID Wands were introduced to field staff in 2017. These new readers have the further read range, and can aid field staff in the recording and reading of animals entering livestock exhibitions such as the Pennsylvania State Farm Show, and Keystone International Livestock Expo. These records can be stored on these wands and then uploaded into the USAHERDS database for additional animal movement information.

BAHDS has also gained the ability to use ArcGIS. With the addition of this software, the Cooperator can make detailed maps involving animal movement, disease outbreaks, and more. The ability to create these 'maps' has greatly reduced response time for potential outbreaks by making this critical information available in a timelier manner.

2.3 Strengths and Weaknesses

The greatest strength of our organization continues to be the highly experienced and well-qualified staff that is dedicated to enforcing the principles of Animal Disease Traceability. Our staff has made excellent rapport with livestock stakeholders and can effectively communicate changes that take place. Regional staff members continue to demonstrate the ability to understand and interpret the requirements within 9 CFR Part 86, apply these standards to local situations and communicate approaches and solutions to colleagues, coworkers, and headquarters staff.

The capabilities of the USAHERDS database continues to be a great asset to the advancement of Animal Disease Traceability. The database is used as a repository for a myriad of information regarding animal movement statewide. Due to the searchability of this information, staff can reliably and rapidly determine distribution and application information on any tag that the database contains. Data regarding premises, licensing, and animal disease programs with related animal identification information is also entirely searchable. Additionally, as a part of the USAHERDS user group, BAHDS can view and participate in updates to the database. With continuing updates, our efficiency continues to improve, year to year.

The Bureau continues to receive strong support interdepartmentally from executive staff, as well as the USDA. In 2017, the USDA and the PDA worked cooperatively to apprehend dealer/haulers in violation crossing state lines. This provided an excellent opportunity to understand ADT compliance challenges for livestock transporters and inform them of their responsibilities under the Rule. Additionally, in 2017 the PDA and the USDA worked cooperatively to complete a deer farm depopulation. Both events displayed the capability of our two agencies to work together and how this can be an extremely important and effective tool.

BAHDS, upon the advice of the USDA (and due to lack of funding), has halted the installation of passive RFID readers at our livestock markets. This is due to the predicted upcoming change in RFID technology to ultra-high frequency. Despite this, BAHDS is still committed to the use and repair of the current passive RFID readers that we have at livestock auctions. As the use of RFID increases with the impending requirement from the USDA, which is being pushed forward by producers, the PDA will revisit installing additional readers in the coming years. These readers provide us with useful information regarding animal movement within the state. The goal of these readers is to reduce the number of steps involved in getting RFID data into the USAHERDS database. We continue to network with livestock market owners to have the potential to install these readers in the future.

Small ruminant identification remains mandatory and has been in place since 2006. Observations at major markets indicate a fairly high level of compliance. Purchase of these identified animals at markets for slaughter by individuals who are not operating approved slaughter establishments hampers our ability to accurately trace these animals. Written communications to DHIA organizations receiving and distributing NUES tags are advising these organizations to instruct producers to apply NUES tags to all dairy calves including bull calves and to routinely provide accurate premises information for assignments of PINs or LIDs. These efforts have strengthened the revised tag distribution agreement promoting traceability through increasing on-farm application and association of assigned tags with a premises identifier. Similarly, we continue to promote the distribution of official identification by accredited veterinarians assigned to producers for the expressed purpose of application in their livestock. Distribution records provided are monitored closely and regularly entered into USAHERDS. Records for the 2015 – 2018 small ruminant tag distribution by BAHDS are listed below.

| Year | 2015 | 2016 | 2017 | 2018 |
|---|-------------|-------------|--------------|-------------|
| Distributed to Veterinarians | 4350 | 5713 | 8338 | 2706 |
| Distributed to Non-Veterinarians | 2075 | 2419 | 5300 | 2850 |
| Total Tags | 6425 | 8132 | 13638 | 5556 |

Our transition from hard copy data files for animal movement documents (CVIs) to searchable electronic files has been a development that has become one of our greatest strengths, and will continue to be so as it develops further. Our transition to using the mCVI system has been extremely beneficial. mCVI automatically integrates CVI data into USAHERDS, which completely cuts out the time and manpower needed to scan in and enter CVI data we receive in the mail. It is the bureau’s hope to eventually make using the application a requirement and begin charging for booklets of paper CVIs, as the paper copies require time and funding to create, and require extensive data entry. With the addition of the mCVI application, it is the bureau’s eventual goal to move towards an almost entirely electronically based system. Additionally, the bureau is moving towards an electronic Coggins form, which would be an additional paper form that we would transfer to an electronic option.

Communication challenges have in some cases limited our ability to work with markets and buying stations to overcome resistance by some owners. Coordinating efforts to gather headquarters personnel, regional personnel, market owners and livestock dealers for education

and outreach purposes remains a challenge. We continue to strive for a working relationship with our two border markets resistant to signing tagging site agreements.

2.4 Opportunities and Threats

Support for this program provides the Commonwealth a unique opportunity to continue to develop a more comprehensive, functional, accurate, and reliable livestock traceability system. Developing a system that can quickly and accurately trace animals to their premises of origin greatly mitigates risks associated with high-impact diseases, including accidentally or deliberately introduced foreign animal disease. The greatest threat we face in the advancement of our ADT program would be the loss of financial support prior to the fulfillment of program goals.

The monitoring of animal movement presents an opportunity to identify high-disease-risk situations and apply preventative strategies if necessary. The use of official identification devices in livestock for purposes other than disease program management provides further instances where livestock tracing can be completed successfully and allows us to continue to develop our program. The introduction of RFID tags as the main form of identification (over NUES tags) would be increasingly beneficial in that passive RFID readers would have the capabilities to read livestock identification without stopping or slowing the speed of commerce.

However, there is a significant threat in the failure to gain producer, veterinarian, livestock market, and stakeholder support for efforts to expand our official identification requirements. A high proportion of officially identified livestock in the general population is essential to success.

2.5 Inventory of Existing Infrastructure

BAHDS is comprised of a headquarters staff of five veterinarians, three administrative officers and a clerical staff of 6. Our field staff includes seven regional veterinary medical field officers and 17 domestic animal health inspectors. This staff is responsible for all animal and poultry health activities and programs statewide. One of the administrative officers is assigned as Pennsylvania's Animal Disease Traceability Coordinator. BAHDS operates with a very limited personnel complement and must accomplish a wide range of program responsibilities ranging from egg safety to aquaculture. To appropriately progress our Animal Disease Traceability effort, it is critical that BAHDS has an efficient means of processing animal identification and movement data. BAHDS manages a system of both paper records and electronic records within the USAHERDS database. Our current IT system includes the ability to have a constant (24/7)

connection, with the additional capacity for communication with USDA's systems. We have excellent headquarters connectivity and variable field connectivity (depending upon how rural the location). Our current electronic data storage system is adequate and the Commonwealth of Pennsylvania's Delivery Center provides proficient support to staff as well as robust data security. Data management is better controlled with current personnel and database systems. These have been created to manage the data we receive from a multitude of different sources. We currently have six livestock markets with installed RFID automated data capture hardware. However, there are only four markets with functional passive RFID readers that capture data from tag sightings, which are then uploaded into USAHERDS. The other passive RFID readers require either repair or replacement, which has been deemed unnecessary at this point. In addition to the passive RFID panel readers, the Bureau also has six Bluetooth RFID wands, which provide tag readouts to smartphones held by our bureau's field staff. The Bureau also has 2 RFID wands with adequate data capacity for days of tag reads. These wands are used for livestock fairs and shows statewide, and tag reads are sent back to headquarters. Data capture, which began in 2013, has significantly increased with hardware upgrades as well as field training initiatives. Extensive electronic copies of CVIs are maintained in organized files on our server. Import and export documents are sorted by date, origin and destination state.

III. Vision and Mission context for Traceability

The mission of the Bureau of Animal Health and Diagnostic Services, Pennsylvania Department of Agriculture is to protect the health of our Commonwealth's domestic livestock populations through prevention and control of dangerous transmissible animal and zoonotic disease and to further protect public health by ensuring a safe, wholesome, adequate and accessible food supply for Commonwealth citizens through the maintenance of a thriving livestock economy.

IV. Traceability Requirements

4.1 Strategic Goals

BAHDS has successfully attained a high level of premises/location identification through the assignment of a combination of federal premises identification numbers (PINs) and state location identification numbers (LIDs) to a large proportion of livestock premises throughout the Commonwealth. Additionally, beginning in 2016, BAHDS has begun to gather further

information about premises, including the species, and number per species, located on each premises. This information is vital in preparation to successfully handle potential disease outbreaks.

BAHDS will continue to work towards the expansion of tag distribution and application, with a focus on on-farm tagging of animals at their birth premises. This will be completed through the use and distribution of USDA-provided NUES and the purchase of RFID tags through cooperative agreement funding. Moving forward our intention is to continue to expand distribution of all forms of accurately traceable official animal identification as appropriate in all livestock program species.

BAHDS will continue to explore further economical alternatives to current paper systems we use. With the addition of the mCVI application in 2017 we are already saving time and money that was previously used to sort and enter data into USAHERDS. This will be completed through outreach to other states and discussions with our IT support personnel. BAHDS is already pursuing different forms of electronic alternatives for different disease programs with our IT support staff.

BAHDS intends to continue communication with our two Dairy Herd Improvement Associations within the state. These associations are a great resource for tag distribution and by ensuring compliance in ADT rule. With their cooperation tagging animals on their birth premises remains vital to our mission to improve traceability within the state.

We intend to continue to increase familiarity of our field staff and headquarters personnel with updates in technology and the use of RFID wands in tandem with their smart phones at all events/venues where the use of this equipment/technology would have applicability.

Acceptance of orange 'OCV' brucellosis vaccination RFID tags by veterinarians continues to be an integral part of our mission to improve ADT. The tags, which were introduced in 2014, allow BAHDS to provide veterinarians with the ability to tag calves with official electronic identification at their place of birth while simultaneously being a part of a disease program.

BAHDS will begin in the upcoming year to provide 'plain' RFID tags to producers. However, these tags will be distributed with certain criteria that must be met. The tags will be distributed in lots of 25. Each time a lot of 25 tags is received, the producer must complete a tag form stating where each of the 25 tags were applied and when. If the producer fails to provide this information, they will be added to the database as unable to further receive our free RFID tags

as they are hindering, as opposed to helping, our ability to continue to advance our traceability system.

Passive RFID tag data capture continues to expand at the four currently equipped and operational markets. BAHDS intends to continue to maintain our currently operational readers and hopes to be able to install readers with newer technology as RFID tags become more prevalent within our markets.

4.2 Programmatic Goals

BAHDS will continue to maintain and explore further opportunities for expansion of its USAHERDS database for maintaining premises data, animal identification device distribution data, and searchable files in addition to the myriad of animal health functions it already performs.

BAHDS will also investigate means of identifying noncompliance trends with animal identification device use and inadequate documentation on CVIs in a manageable system to improve performance of accredited veterinarians issuing these documents.

BAHDS will continue to cooperate with USDA, APHIS for seamless transfer of animal disease data from USAHERDS to Federal databases.

BAHDS is examining an effective means of monitoring compliance of licensed livestock dealer/haulers, including consideration of promulgating enhanced dealer/hauler regulations to support enforcement and compliance.

4.3 Animal Disease Traceability Performance Measures

Traceability performance standards defined:

1. Determines the state in which the animal was officially identified and notifies that state of the reference animal's identification number.

This task is performed by the state that received the animal.

The performance parameter measured is the time required for determination of the state where the animal was identified by the recipient and for notification of the state where the animal was officially identified.

2. State where animal was officially identified determines that it has documentation that an official identification number was issued within its jurisdiction and it has contact information for the person who received that number.

This task is performed by the state where the reference animal was identified.

The performance parameter measured is the time it takes to determine the location within the state where the animal was officially identified. If identification was applied at a market, the location from where the animal was delivered to the market must be determined.

3. Determines the state from which the animal was moved interstate into its jurisdiction and notifies that state of the reference animal's identification number.

This task is performed by the state that received the reference animal.

The performance parameter is the time it takes to determine the state from which an imported animal was moved from and contact that state.

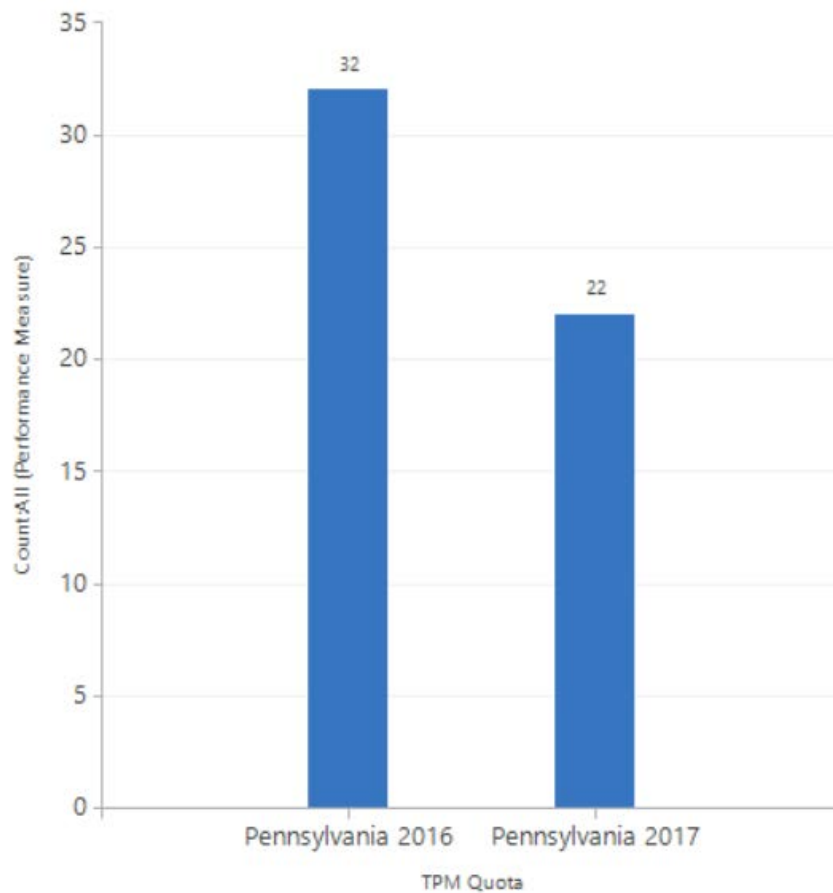
4. Determines address or location from which the animal was shipped.

This task is performed by the state that receives notification that a reference animal was moved interstate from its jurisdiction.

The performance parameter is the time it takes to determine the location in the state from where the animal was shipped when it moved interstate. If movement was from a market, determine the production unit of the animal before moving to the market.

BAHDS is currently capable of reliably completing performance standards 1 almost instantly with state-coded NUES tags and within 48 hours for non-state coded RFID tags. Non-state coded tags require a search capability of all tag numbers appearing on movement documents. Under performance standard 2 BAHDS' ability to determine where a tag was assigned is highly reliable because of comprehensive tag distribution data for accredited veterinarians, regional offices, headquarters and dairy herd improvement associations maintained in USAHERDS and AIMS access. We are generally able to report this information within 24 hours, considering tag assignment data access and its association with PINs and LIDs. There is an occasional outlier trace that may require several days to contact its state or veterinarian of origin. We continue to reach out to other states that are successfully managing scanned movement documents and are in consultation with our IT staff in developing more efficient ways to maintain and update our database for these trace performance measures.

Pennsylvania has continued to complete all TPM's issued by the USDA. The chart below displays the TPM's completed in the 2016 and 2017 year periods.



4.4 Data Requirements

Federal premises identifier and state location identifier data are stored in USAHERDS. This data is linked to tag distribution data, also stored in USAHERDS. BAHDS accepts approved forms of official identification as approved by USDA, APHIS, including NUES tags and 840 AIN RFID tags. Pennsylvania does not intend to enter into any agreements with other states for alternate forms of official animal identification used in lieu of USDA-approved forms.

BAHDS has been distributing official identification (NUES tags) to the following stakeholders per its established distribution plan:

1. Approved markets that have entered into an official tagging site agreement.
2. Other licensed livestock dealer/haulers who have entered into tagging agreements and meet Bureau recordkeeping requirements including reporting tag use of all previous tag receipts prior to additional tag assignments.
3. Accredited veterinarians for use in disease program activity and for further distribution to producers. Tags assigned to producers are exclusively for use in animals originating from their premises and traceable to their premises. Accredited

veterinarians also have an ongoing tag application and distribution reporting requirement. BAHDS Regional Offices may also distribute tags directly to producers as described for accredited veterinarians.

4. Dairy One, Inc. and Lancaster Dairy Herd Improvement Association - in accordance with terms described in "Agreement on Standard Operating Procedures Regarding NUES Ear Tags Among (Name) Dairy Herd Improvement Association, Pennsylvania Department of Agriculture, and The United States Department of Agriculture, Animal and Plant Health Inspection Services, Veterinary Services, Pennsylvania Area".

4.5 Information Technology Plan

Pennsylvania developed the USAHERDS database (as PAHERDS) and began its implementation in 2006. USAHERDS has continued to experience nationwide growth and expanded its functionality since that time. It is our hope that in addition to this, mCVI and the potential for an electronic Coggins submission form will further advance the searchability and traceability functions the state currently has.

4.6 Executive Support

Executive support for BAHDS' Animal Disease Traceability activities has been energetic and remains strong. Weekly meetings between the Bureau Director and Deputy Secretary for Animal Programs include discussion of the Pennsylvania ADT initiative progress and program needs. The preservation of livestock commerce and a livestock industry remain a very high priority for the Pennsylvania Department of Agriculture.

4.7 Coordination and Oversight Procedure

As convening face-to-face meetings becomes increasingly challenging, BAHDS has transitioned from a stakeholder advisory group to including discussions on Animal Disease Traceability at bimonthly meetings of the Pennsylvania Animal Health and Diagnostic Commission. These meetings are reliable assemblies of livestock producers, other livestock stakeholders and animal health experts and serve as an excellent platform for in-depth discussion of ADT issues and a source of valuable feedback.

4.7.1 Policy

Policies of the Pennsylvania Department of Agriculture and the Commonwealth's Domestic Animal Law are consistent with the principles of Animal Disease Traceability. PDA, BAHDS is dedicated to the maintenance of a viable livestock industry and committed to assisting livestock stakeholders in fully complying with the Animal Disease Traceability Rule.

4.7.2 Staffing

Several members of BAHDS serve Animal Disease Traceability functions in addition to the Animal Disease Traceability Coordinator, whose responsibilities are entirely focused on implementation, maintenance and expansion of the Commonwealth's ADT effort. Staffing reductions following the 2008 economic recession resulted in the loss of an animal movement document clerk. All current clerical employees multitask and provide back-up in critical program work that is falling behind. A deficiency in data entry capacity has limited progress in data management. We continue to seek labor-saving technological alternatives to program operation.

4.7.3 Budget

The Animal Disease Traceability Coordinator has sole responsibility for leadership, advocacy, stakeholder outreach, interagency communication and administration of Pennsylvania's Animal Disease Traceability Program. Significant cost share is provided by headquarters personnel including the Bureau Director, Assistant Bureau Director, State Epidemiologist, and 24 Regional staff members including seven regional veterinarians who dedicate substantial portions of their time on duty to ADT program work.

4.7.4 Outreach

BAHDS' 24 field staff members spend time working on all aspects of Animal Disease Traceability including education, outreach, compliance checks and disease investigation. Outreach presentations have been offered by the Animal Disease Traceability Coordinator and the State Veterinarian at such venues as the PA Beef Council, PA Cattlemen's College, purebred dairy cattle association meetings, livestock markets, the Pennsylvania Veterinary Medical Association and at seminars conducted at the Keystone International Livestock Exposition.

4.7.4.1 Veterinarians

BAHDS performs outreach to accredited veterinarians. A presentation regarding ADT advancements and our new mCVI application was given at the continuing education meeting for veterinarians held by the AHDC in the Fall of 2017. Communications to accredited veterinarians through an email system provides an opportunity for animal health updates, deadline notifications, etc. Additionally, in 2017, the ADT Coordinator sent a letter to all accredited level II veterinarians, reminding them of the responsibilities involved with receiving tags from the PDA and reporting their tag usage. BAHDS cooperates with USDA, APHIS, VS to deliver accreditation training to veterinarians, part of which includes Animal Disease Traceability. Pennsylvania maintains current and accurate files of accredited veterinarians in addition to maintaining this information in the USAHERDS database.

4.7.4.2 Livestock Markets and other Licensed Dealer/Haulers.

In April 2014, a comprehensive list of livestock dealers for use by the regional staff was developed to identify active dealers and others in need of licensure. This list remains a useful resource in USAHERDs. In 2017 a letter was sent to dealer/haulers and markets reminding them of their responsibilities for reporting tag usage and how not doing so could negatively impact their receiving of USDA-issued NUES tags from the PDA.

4.7.6.3 Industry as a Whole

ADT updates and program information are presented and discussed at Animal Health and Diagnostic Commission (AHDC) meetings as well as to various AHDC committee meetings held throughout the year. The Bureau continues to make presentations to cervid stakeholders. These presentations are intended to familiarize the industry with certification program standards, the spread of CWD and new requirements, and include ADT information regarding compliant use of official identification devices.

4.8 Monitoring and Reporting Interstate Movement Activity

BAHDS continues to monitor CVIs to determine error rates and compliance issues, particularly with improper use of or lack of official identification on movement documents.

We continue to report the following data with quarterly reports:

- Number of export CVIs created.
- Number of import CVIs received.
- Number of imported bovines by class officially identified.
- Number of exported bovines by class officially identified.
- Volume of official identification distributed.

V. Traceability Implementation

5.1 Ranking of Priorities for Advancement

1. PDA, BAHDS will continue to update and renew premises registrations with a goal of a one-to-one association between official identification device distributions (NUES or AIN) with a valid premises identifier. We will continue our communications with Dairy Herd Improvement Associations on the absolute requirement of reporting premises information and the assignment of a premises identifier when tags are distributed.

2. BAHDS will continue outreach efforts to increase the proportion of official identification applied at the farm of origin. We will continue to work with all entities distributing NUES tags and RFID tags and inform them of the proper use of tags assigned to producers.
3. BAHDS will continue to monitor tag use at official tagging sites and tag use of licensed dealer/haulers through regulatory records checks. The emphasis will remain on official identification applied to dairy breed calves in livestock commerce.
4. BAHDS will continue its efforts to establish mCVI (or other approved electronic forms of CVI) as our main source of receiving animal movement documentation. The Bureau will also continue to work with IT support to advance its traceability as new technology becomes available.
5. BAHDS will continue to provide orange 'OCV' RFID tags for officially brucellosis-vaccinated calves. This initiative continues to be well received and the demand for these tags continues to increase.
6. BAHDS will begin to issue 'plain' RFID tags to producers, 25 tags at a time. With the requirement of tag records prior to receiving more tags. BAHDS hopes that this will increase tag accountability as well as traceability.
7. Passive electronic capture of RFID at livestock markets remains a priority. The four remaining markets with functional scanners will continue to collect data. With the further implementation of RFID requirements, BAHDS hopes to revisit the installation of more of these panels as RFID tags become more prevalent in markets.