

# Advancing Animal Disease Traceability (ADT) Road Map for Colorado

---

## **A Three-Year Plan**

**Submitted by:**

**DR. MAGGIE BALDWIN**

---

**COLORADO STATE VETERINARIAN**

**COLORADO DEPARTMENT OF AGRICULTURE, ANIMAL HEALTH DIVISION**

**305 INTERLOCKEN PARKWAY, BROOMFIELD, CO 80021**

**303-869-9130**

**Submitted to:**

**DR. DON BECKETT**

**AREA VETERINARIAN FOR COLORADO**

**VETERINARY SERVICES**

**ANIMAL AND PLANT HEALTH INSPECTION SERVICE**

**UNITED STATES DEPARTMENT OF AGRICULTURE**

---

**13922 DENVER WEST PARKWAY, SUITE 100-VS, LAKEWOOD, CO 80401**

**303-231-5385**

**Date: February 10th, 2023**

# Table of Contents

## Table of Contents

I.	EXECUTIVE SUMMARY .....	3
II.	CURRENT TRACEABILITY SITUATION.....	5
2.1	Who are we? .....	5
2.2	Where are we now?.....	6
2.3	Strengths and Weaknesses .....	10
2.4	Opportunities and Threats.....	11
2.5	Inventory of existing infrastructure and suitability assessment.....	11
III.	VISION AND MISSION CONTEXT FOR ADVANCING TRACEABILITY.....	12
3.1	Vision Statement.....	12
3.2	Mission Statement .....	12
IV.	TRACEABILITY REQUIREMENTS.....	12
4.1	Strategic goal(s).....	12
4.2	Programmatic goals (objectives).....	13
4.3	ADT Trace Performance Measures (TPMs) .....	16
4.4	Data requirements .....	17
4.5	Information technology plan .....	18
4.6	Resource requirements.....	20
4.7	Organizational needs .....	20
4.7.1	Executive support .....	20
4.7.2	Coordination and oversight procedures .....	20
4.7.3	Policy .....	20
4.7.4	Staffing .....	20
4.7.5	Budget requirements .....	21
4.7.6	Outreach (required to be addressed within the Road Map) .....	21
4.8	Monitoring and reporting interstate movement activity .....	23
V.	ADVANCING TRACEABILITY .....	23
5.1	Ranking of priorities for advancement .....	23
5.2	Implementation of objectives.....	24

## I. EXECUTIVE SUMMARY

The Animal Health Division of the Colorado Department of Agriculture (CDA) has greatly enhanced its animal disease traceability capabilities in the last 10 years. Important components of the improvements were made possible through the Animal Disease Traceability Cooperative Agreements from USDA APHIS Veterinary Services. Animal Disease Traceability is not something new but has been a focus of the Division's office processes dating back to the implementation of the health certificate system for interstate movement of livestock. During this history, much of the Division's animal disease traceability was based on the paper health certificate system but lacked the ability to quickly query, search, analyze, and run reports on livestock premises, livestock movement, and animal ID. Instead, disease trace-outs and finding animals of interest in a disease outbreak were done through accessing paper-based filing systems of the day. Many times, those systems were very inadequate, and the time involved in searching for data is very time-consuming.

Up until 2012, a paper-based filing system was still in use at CDA. In January 2012, the Division began the transition from a paper-based filing and searching system to an electronic, searchable, database for livestock premises, livestock movement data obtained from certificates of veterinary inspection (CVI), animal ID information, and management of animal incidents. CDA contracted with Computer Aid Incorporated (CAI), the former software vendor for the USAHERDS animal health information management system and implemented it in July 2012. The USAHERDS system and CDA's development of detailed office processes and standard operating procedures (SOPs) for all USAHERDS processes and personnel are key components for the success of the system.

This electronic transformation was not one that happened overnight, but the Division continues to set goals, objectives, and priorities for advancing its electronic animal disease traceability capabilities with the overarching goal of rapid response to real life animal health and disease control incidents. Consistent, accurate, and proficient data entry of premises, livestock movement, animal ID, and laboratory testing information is vital for accurate and useful reporting and analysis. USAHERDS has helped to increase the speed of response to real life disease incidents and outbreaks and improved the management of animal incidents such as all-hazard events like wildfire, blizzard, flood, and other natural disasters.

Foundational to our animal disease traceability goals is the Division's high priority to increase the number of veterinarians that use electronic CVIs; which allows data from the CVIs to be directly migrated into the USAHERDS database. We have made significant progress as currently there are 1,158 Colorado veterinarians that use some type of electronic CVI system. The use of electronic CVIs creates greater office efficiencies within the Animal Health Division because it saves the Division's staff from having to do as much data entry as there are fewer paper CVIs that arrive in the office. In 2017 CVIs issued by Colorado veterinarians were 56% electronic. In 2022 CVIs issued by Colorado veterinarians were 83% electronic.

CDA has put funding towards designing and creating an electronic CVI (VET CVI) application that will allow the creation and sharing of CVIs for veterinarians. This application also allows for recording of brucellosis vaccination and tuberculosis testing reporting. Combining these into one application and uploading that information into the USAHERDS database increases our exposure to electronic IDs. All of this leads to our increased ability to trace animal disease.

Manual data entry from paper CVIs takes an immense amount of time to capture and transfer that livestock movement data and animal ID data from the paper certificates and enter it into USAHERDS. Through the office efficiencies created by increased electronic CVI data “flowing” automatically into the database, it has allowed staff the time to collect more animal ID data from the paper CVIs. Ultimately this has resulted in greater animal disease traceability through animal ear tag information becoming more searchable. For example, in the last quarter of 2022 Division staff entered 13,208 official IDs from cattle into USAHERDS, there were 69,555 cattle IDs that were migrated into USAHERS through the use of electronic CVIs. To compare, in the last quarter of 2019 Division staff entered 33,026 official IDs from cattle into USAHERDS, there were 65,121 cattle IDs that were migrated into USAHERDS through the use of electronic CVIs, in a recent quarter of 2016, the Division staff entered 30,649 official IDs from cattle CVIs into USAHERDS. In the same quarter of 2015, there were only 11,396 official IDs entered from cattle CVIs. In addition, Division staff continue to create ideas for enhancements within USAHERDS to improve the speed of uploading animal ID numbers and other improved capabilities so that enhancements can be built by Acclaim (the vendor for USAHERDS) within the database. Overall, our ability to search livestock movement data and animal ear tag information has improved considerably which aids our animal disease traceability and livestock emergency response efforts.

In 2015, CDA contracted with CAI (the former vendor for USAHERDS) to implement USALIMS at the Animal Health Division’s Animal Health Laboratory (AHL). It is a laboratory information management system that is a sister application to USAHERDS, it is being used at 19 different animal health laboratories across the country. The addition of USALIMS to our Division has further advanced animal disease traceability efficiencies. It enhances information sharing, facilitates transfer of samples between labs, streamlines reporting of program disease data, increases the number of official animal IDs recorded in USAHERDS, and enables our disease response activities to be more effective. Also, more importantly, it provides real time information on laboratory testing and ties those results to the premises in USAHERDS therefore increasing efficiency and reducing labor. The USALIMS at AHL also tracks official ID tags and paper CVIs that are dispersed to Colorado veterinarians, aiding in trace-back activities.

Colorado State University, a National Animal Health Laboratory Network lab, began using USALIMS several years ago. CDA funded an enhancement that will allow messaging from CSU’s USALIMS database directly into USAHERDS. This capability will drastically increase our capability and efficiency to respond to disease incidents and outbreaks.

The Colorado Department of Agriculture plans to:

- Achieve and Report on National Priority Traces
- Provide Proficient and Effective Administration and Reporting of Official Identification Devices
- Integrate and Provide Efficient Processes for Information Sharing in order to Improve Traceability and Disease Control Capabilities
- Implement and Sustain Traceability Education and Outreach
- Continue to Increase Use of Electronic Records in the Management of Livestock Premises, Animal IDs, Livestock Movement Information, and Disease Control
- Increase Compliance Activities and Enforcement of the ADT Rule
- Monitor and Report on the Administration of Official Identification Devices and on the Interstate Livestock Movements Imported and Exported from the State via CVIs

These ideas will be outlined below.

ADT funding predominantly supports the salaries for one traceability program specialist (95% of that salary and fringe benefits) and one Traceability Veterinarian also known as program veterinarian (40% of that salary and fringe benefits). The remainder of the funding goes towards monthly cell phone service for the program specialist and a portion of the annual maintenance cost of the USAHERDS database. In the next 3 years these salaries are projected to increase by at least 3% each year, which would deplete the budget amounts available for cell phone service and USAHERDS maintenance.

This Animal Disease Traceability Road Map lays out specific traceability strategic objectives for Colorado to serve as a guide and sets the 3-year course for animal disease traceability activities running through FY 2025.

## **II. CURRENT TRACEABILITY SITUATION**

### **2.1 Who are we?**

- Who are the primary constituents?  
Colorado Department of Agriculture, Division of Animal Health  
Colorado area USDA-APHIS-VS
- Who are the external constituents?

Colorado livestock industry stakeholders, Colorado State University Veterinary Teaching Hospital, Colorado State University Research and Extension, Colorado Veterinary Medical Association, Colorado Livestock Market Association, Governor's Forum on Colorado Agriculture. All of these stakeholders have contact with more small industry stakeholders which creates a trickledown effect of information that can impact the ADT program.

- What does statewide, tribal-wide, territory-wide mean?  
Statewide means the entire state of Colorado.
- How are traceability data used internally, externally?  
In Colorado, there is a State statute called the Livestock Information Security Act which prevents the State from sharing all proprietary information with federal agencies but an exemption is written into the statutes whereby CDA can share information with USDA, state animal health officials, and other emergency management response partners in time of disease and disaster affecting Colorado animal agriculture. We fully intend to do that and partner with USDA VS for disease control, emergency response, and animal disease traceability efficiencies.
- What values guide the ADT system?  
The values that guide our ADT system are the same that guide our entire Colorado Department of Agriculture: Respect Professionalism, Service, Partnership, and being Proactive.

## 2.2 Where are we now?

Since 2012, we have used USAHERDS as our animal health information management database. There is much overlap between livestock disease control, animal emergency response, and disease traceability; USAHERDS stores information on livestock premises, official animal ID, livestock movement as captured from certificates of veterinary inspection (both import and export CVIs), and disease outbreak incidents in Colorado. It is a highly searchable database that allows for timely responses to NPTs, as well as real life traces, and livestock incidents. USAHERDS also allows us to export data and generate reports as well as manage disease quarantines and associated documents. The system is limited only by our ability to populate it with useful data from CVIs, test charts, disease investigations, and livestock incident response activities. We can more readily share information with other states that use USAHERDS due to the common database structure, but it is not as easy with other state or federal databases. It is our goal to work at the national level to find ways to integrate animal disease traceability data with other databases that are in use as it will benefit all states and our national capabilities in disease traceability.

Colorado strives to be a leader in the field of ADT information sharing. By being involved in these conversations, both regionally through the Western States Livestock Health Association and nationally through the United States Animal Health Association, progress has been made on data sharing and integration. We will continue to be a leader in electronic ID and information sharing. Helping to establish a common reporting format for ADT information that will work with multiple state information databases is a priority for Colorado as this type of standard data formatting will reap dividends in regards to shared interstate livestock movement and animal ID information. CDA personnel have served on the Subcommittee on CVI XML Standards of the USAHA Committee on Animal Health Surveillance and Information Systems. This sub-committee developed the current USAHA XML CVI Standards which has served as a template for any new electronic CVI systems so that the data transfer from the company's CVIs would easily message into USAHERDS or other databases without manual data entry. CDA is committed to continue setting this as a goal that has the highest priority; to cooperate and advance a national effort to work towards building integration between databases in order to share information without manual data entry. This is especially true as it relates to CVI livestock movement and animal ID information.

This data sharing also occurs between the USAHERDS database and the USALIMS database at AHL. Laboratory accession data is entered into USALIMS and is connected to the premises ID (PIN) or Location ID number (LID), the animal ID, and other premises information such as livestock disease incidents. CDA plans to work with Acclaim, the vendor for USALIMS and USAHERDS, to develop web-service messaging that will automatically send information from the AHL or another USALIMS-user lab to a state that uses USAHERDS as their animal health database. For example, if a western Kansas veterinarian sends samples to the AHL, the laboratory accession information and test results including animal ID data on the animal would be automatically sent to the Kansas USAHERDS database in Manhattan, KS. Previously, that type of messaging only occurred from AHL to the USAHERDS database in Colorado. In addition, we have made progress towards our goal to have all three Colorado State University diagnostic laboratories in Colorado able to message into our Division's USAHERDS database. Currently, those diagnostic laboratories report all *Trichomonas* test results through direct messaging into USAHERDS, including official animal IDs and animal location information. This will greatly increase our traceability data on the state's livestock populations.

Another way that we want to expand upon information sharing between states is by seeking ways to increase CVI sharing efficiencies with other states. One way we are working on this is through utilization of the VET CVI app as a tool for our accredited veterinarians. We are working with IIAD to help facilitate "automatic upload" of the

import CVIs we receive and reciprocate that with other USAHERDS states as well. Currently the import and export electronic CVIs are automatically migrated into our USAHERDS system from most CVI applications. We also continue to support (through consultation, testing assistance, and in some cases monetary funding) solutions for sharing information between GlobalVetLINK (GVL) and VSPS in regards to finding a uniform reporting format for automatic sending of CVIs generated in those systems to our USAHERDS database. We will continue to look for those opportunities for improved information sharing of livestock movement and animal ID data between different databases and will help to fund those enhancements. With the VET CVI app we would see CVIs which are generated by the accredited veterinarians and are then automatically uploaded to both the origin state and the destination state simultaneously, upon submission of the completed CVI by the issuing veterinarian. This is a pathway to improved data sharing between states and to also possibly serve in lieu of an entry permitting system. If we are receiving the electronic CVIs as soon as they are issued, the process will serve the main purpose of an entry permit system – to receive real-time information and to be able to follow up with any necessary actions.

Increasing the use of electronic records in all aspects of ADT is a primary goal of the Colorado Department of Agriculture. By continuing to increase the use of electronic CVIs with our accredited veterinarians, we help to make this data more searchable and accurate within our USAHERDS database. This helps us to have electronic records of livestock premises, animal IDs, and livestock movement information.

Additionally, helping veterinarians see the benefit of electronic animal ID (RFID ear tags-both low frequency and ultra-high frequency tags) in their electronic form generation (testing and vaccination charts as well as CVIs) saves them time and money while at the same time reducing the amount of manual data entry. To this end we continue to train and work with our VMOs and also make sure that both the Traceability Veterinarian and Traceability Program Specialist are available to educate and troubleshoot these electronic options with the veterinarians of our state. We provide a “help-desk” type of service to all of our veterinarians so that if they encounter any problems with using electronic CVIs, they know that they can count on our office to provide help and solid customer service. We feel it is important to support the veterinarians who are trying to change over to a new era of CVIs, and this will continue to be a priority for increasing and managing the number of electronic records in our database. A veterinarian from our staff is always on call to help our veterinarians at all times whether that be to report disease outbreaks or help with import or export requirements.

Another way that we continue to increase the use of electronic records is through our work with other states in helping them to adopt electronic CVI options for their own veterinarians. When asked by other state animal health officials, our Division staff has also shared our office processes to accommodate the increased use of electronic CVIs.

CDA has taken a leadership role with the USAHERDS User Group which is a working group of all the states that have implemented the USAHERDS database. Our staff have served in many leadership roles such as Secretary, Vice-President, and President of the group and have been active participants of the group. This group's role is to envision new enhancements, hold annual national training, have monthly conference calls, and, ultimately, to develop and implement new enhancements to the database. Colorado has taken a leadership role in the past and will continue to stay active and engaged.

As we continue to work with other states to improve traceability, whether they are using state-built databases, SCS, or USAHERDS, it will result in an increasing percentage of electronic records generated in our database and in theirs. In building cooperation and collaboration on information sharing and database integration, we will increase our electronic records to build our nation's traceability capabilities. It also serves to make data sharing more convenient and timely in real life scenarios.

We are increasing the use of electronic records by working closely with the USDA/APHIS VS to facilitate electronic options for any traceability requirements in which it may be possible to use electronic submission options. Those electronic formats of data are much easier to share and/or trace than traditional data from paper forms or submissions. The Division plans to investigate and pursue work with Acclaim, the vendor for USAHERDS, to develop and adopt an electronic form for TB test charts and Brucellosis vaccination records so that data can be automatically uploaded into USAHERDS. In addition, CDA will work with other USAHERDS states to share the funding of building enhancements to USAHERDS that will improve electronic records, data management capabilities, and functionality.

We also plan to continue to work closely with livestock auction markets to improve the animal ID records; these often play a critical role in actual disease traces and if not properly maintained, we can lose traceability at a critical juncture. We intend to have VMOs continue to work with all livestock auction markets and their veterinarians to move toward electronic record keeping.

Another component of increasing electronic records for use in disease outbreaks is making sure that we have staff within our office, as well as VMOs in the field, that are trained and familiar with the databases that will be used in these real-world scenarios. Making sure that 2-3 CDA Animal Health Division employees are trained in the use of

EMRS2 continues to be a priority. As mentioned previously, all of our exercise and real-life trace-outs will be recorded in EMRS2 and EMRS2 will play a large role in a real-life disease outbreak. Additionally, keeping 2-3 employees trained, proficient, and with up-to-date access in the federal and private animal health databases is crucial in searching and conducting both NPTs and real-life trace-outs. Private databases like GVL and IMI Global, along with federal databases like SCS, SCS-Scrapie, VSPS, and the AINM are all critical in tracing a real-world disease scenario. Combining the capability of USAHERDS with our familiarity with these locations and proficiency with the other databases strengthens the emergency disease response that we can conduct in a real-life scenario.

The CDA field staff and traceability specialists at the State Veterinarian's Office have also assisted practicing veterinarians and CSU Veterinary Teaching Hospital staff in using MIM technology for capture of animal ID data when TB herd testing or in other situations. In addition, we will keep at least two CDA staff trained on use of PDAs, wands, and animal ID data capture to assist field efforts and for use in emergency management incidents. This aids animal ID data sharing and increases traceability through an expanded database of animal IDs. In the past, we have funded the purchase of equipment and will continue to support, fund, and maintain proficiency in this area. We have continued to acquire funding to purchase equipment (RFID readers, RFID taggers, rugged laptop, and rugged tablets) and software (SaleTime Vet Module) for livestock auctions to increase access to electronic CVIs and RFID capabilities, allowing us to improve our traceability.

## 2.3 Strengths and Weaknesses

### Strengths

- Good working relationships with industry stakeholders
- Staff with strong ties to the livestock industry
- Colorado's secure food supply plans
- Addition of an emergency management liaison
- Staff with strong technological skills who are willing to troubleshoot.

### Weaknesses

- CVIs that are illegible, missing information, animal ID numbers that are not accurately recorded by veterinarians
- CVIs or testing that does not automatically upload or connect to USAHERDS

- Limited funding for EID readers and SaleTime VetModule to be able to provide to producers, livestock markets, and veterinarians in the field.

## 2.4 Opportunities and Threats

### Opportunities

- Encourage the use of EID tagging and electronic documents
- Increasing information capture of EID tagging through the No-Cost RFID program
- Communication, education, and outreach to our stakeholders
- Improving information and traceability at livestock auctions through the SaleTime VetModule

### Threats

- Distrust from our Stakeholders due to increased backgrounding costs caused by EID.
- Risk of transboundary or emerging disease introduction without appropriate timely recognition in the field.
- Having a system that is limited to feedback and information provided to us.

## 2.5 Inventory of existing infrastructure and suitability assessment

CDA office personnel include 3 full time employees who are responsible for entering and primary review of CVIs. We also have a full time Traceability Specialist and a Program Veterinarian dedicated to ADT and non-compliance issues and contingency plans. We have 4 field staff members that also contribute enforcement with livestock auctions and routine compliance. We also work closely with our USDA counterparts to be able to cover the whole of Colorado. We have adequate office space. We have 3 full time staff that have access and proficiency to search for official animal ID and animal movement data located in the following nine databases: AINM, SCS, SCS-Scrapie, EMRS2, VSPS, IMI Global, GVL, USALIMS, and USAHERDS.

All of our database is now digital and contained with USAHERDS.

Data management is overseen by Colorado's Office of Technology with all storage in the cloud. With that the state is providing capacity that does not have any foreseen storage limitations, the necessary speed for all staff to complete their multiple tasks along with automated functions to perform in the background, security and needed support. In addition to this, Acclaim maintains backed up data for all states in the event of any severe data corruption.

For automated data capture we have several APIs established to deliver information directly to USAHERDS on a daily basis or even at the time of submission. Examples include multiple CVI platforms and animal ID information messaging out of USAHERDS to AHER.

### **III. VISION AND MISSION CONTEXT FOR ADVANCING TRACEABILITY**

#### **3.1 Vision Statement**

Overall, the vision of the Animal Health Division of CDA is to advance animal disease traceability and protect Colorado's livestock industry, and function cooperatively and proficiently as a partner with Colorado's two Native American tribes, 49 other States, and the USDA APHIS Veterinary Services in order to respond effectively to livestock disease and all-hazards events.

#### **3.2 Mission Statement**

The mission of the CDA is to strengthen and advance Colorado's animal agriculture industry; ensure a safe, high quality, and sustainable food supply; and protect consumers, the environment, and natural resources. More specifically, the mission of the Animal Health Division of CDA is to be responsible for animal health and livestock disease control activities in Colorado and to provide for an efficient and effective response to significant livestock disease incidents.

### **IV. TRACEABILITY REQUIREMENTS**

#### **4.1 Strategic goal(s)**

1. Enhance electronic sharing of data among Federal and State animal health officials, veterinarians, and industry; including sharing basic ADT data with the Federal Animal Health Events Repository (AHER);
2. Increase use of electronic ID tags for animals requiring individual identification to make the transmission of data more efficient.
3. Enhance the ability to track animals from birth to slaughter through a system that allows tracking data points to be connected; and
4. Elevate the discussion with States and industry to work toward a system where animal health certificates are electronically transmitted from private veterinarians to State animal health officials.

## 4.2 Programmatic goals (objectives)

### 1) Information Sharing

- a) Since 2012, we have used USAHERDS as our animal health information management database. There is much overlap between livestock disease control, animal emergency response and disease traceability; USAHERDS stores information on livestock premises, official animal ID, livestock movement as captured from certificates of veterinary inspection (both import and export CVIs), disease surveillance testing, and disease outbreak incidents in Colorado. We can more readily share information with other USAHERDS-user states due to the common database structure but it is not as easy with other state databases or SCS. It is our goal to work at the national level to find ways to integrate animal disease traceability data with other databases that are in use as it will benefit all states and our national capabilities in disease traceability. Our CDA staff will actively pursue opportunities to integrate and share information across multiple databases. Colorado strives to be a leader in the field of ADT information sharing.
- b) We will continue to work to refine the process and participate with USDA VS to upload animal ID data to AHER to improve the efficiency of traceability of official animal IDs.
- c) In Colorado, there is a State statute called the Livestock Information Security Act which prevents the State from sharing all proprietary information with federal agencies but an exemption is written into the statutes whereby CDA can share information with USDA, state animal health officials, and other emergency management response partners in time of disease and disaster affecting Colorado animal agriculture. We fully intend to do that and partner with USDA VS for disease control, emergency response, and animal disease traceability efficiencies.
- d) The existing electronic CVI systems including the VET-CVI, Global Vet Link, VSPS, and Fort Supply CVIs migrate data directly into USAHERDS in Colorado and to other states that use USAHERDS. This is a tremendous step forward in sharing information electronically and improves animal disease traceability. The only electronic CVI system that does not share livestock movement and animal IDs through automatic web-messaging services is SaleTime. We do receive a copy of the CVI and xml data - we hope that future enhancements will improve data migration.
- e) CDA has MOUs with other border states; these agreements allow for better coordination and integration of information between states.
- f) Colorado will continue to use the MIM system and also USDA's Animal Identification Management System (AIMS), which tracks official 840 tag transfers, and consequently the individual animal movement due to the presence of an official 840 tag and livestock movement documents like the CVIs. In addition, during disease traceability incidents, CDA will share information with EMRS2. All of this improves information sharing between CDA and USDA VS.

g) CDA is available to entities and agencies—both intrastate and interstate—that require assistance with animal health and disease traceability. Colorado communicates frequently with industry organizations, other states’ animal health officials, with tribes, and federal animal health officials.

h) Colorado will continue to actively participate in the national conversation to standardize animal health data transfer from electronic CVIs to other animal records.

i) As a state that utilizes USAHERDS for all of our database needs we are a member of the USAHERDS User Group. This group of individuals from states that have employed USAHERDS as their animal health information management database is key to visioning for the future and bringing forth ideas for enhancements to the USAHERDS database to improve the capabilities of the USAHERDS system and to more easily share animal health information.

j) Colorado assisted with the development of VET-CVI, an electronic CVI application that integrates movement data into USAHERDS. VET-CVI is also capable of recording brucellosis vaccination and tuberculosis test charts and integrates them into USAHERDS. These features allow for official identification RFID tags to be easily scanned into the test/vaccination charts as well as CVIs and assures these official IDs are easily searchable in the USAHERDS database.

## 2) Administration of official identification devices

a) Continue to educate veterinarians and producers on the value of electronic official animal ID to their own business models, with the benefit of increasing animal disease traceability.

b) Plan to continue to work with many of the veterinarians who are using electronic CVIs to help them in migrating official animal ID tag numbers right on to the CVI so that all of those tag numbers automatically migrate into USAHERDS.

c) When veterinarians call to order or inquire about official ID tags, someone always gives the caller some options of different tags that are available, including the no-cost program.

d) The Division offers RFID brucellosis tags & White Brite tags to veterinarians who want to use this option for their clients’ livestock.

e) We will be working with other states and USDA personnel to look for new efficiencies that could be developed between databases of different States, and also between State and Federal databases in regards to sharing the animal ID information in a timely and uniform manner.

f) CDA will continue to provide electronic white and orange tags through USDAs no-cost program while USDA continues distribution of those tags.

g) CDA will continue to provide activities to educate and provide information about the no-cost RFID program to veterinarians and producers. Provide outreach programs and courses to inform producers and veterinarians about RFID

technology and the benefits these devices can provide to livestock producers. This program will require veterinarians and producers who receive tags to report the application of those tags for our records (date, time, place, reason, etc.)

h) CDA has in the past sent out LPR RFID readers to producers and veterinarians, and will continue to do so as funding allows. We will also continue to send AWR300 readers to livestock markets along with assisting markets who use SaleTime software to implement the VetModule in order to track EIDs.

### 3) EID Tracking

a) Colorado currently has a system to record all No-Cost RFID tags that are distributed to accredited veterinarians, producers, and livestock markets. Our Traceability Compliance Specialist works to maintain this database of distributed tags.

b) If necessary, the Traceability Compliance Specialist will perform AIMS queries for any tag that was distributed that is not recorded in the CDA tag database.

c) The Traceability Compliance Specialist will implement an audit program that will randomly audit veterinarians, producers and livestock markets that received RFID tags to ensure compliance of recording placement of tags. The goal for this audit would be 1-2 times per quarter with a minimum of 2 producers, 2 accredited veterinarians and 2 livestock markets.

d) Colorado collects data on: premises/locations where livestock are kept; livestock that come into Colorado via import permits and CVIs and go out of the state via export CVIs; livestock that are tested for federal program diseases such as brucellosis, EIA, scrapie, tuberculosis, and bulls tested for the state trichomoniasis program; along with other reportable disease incidents and the official IDs needed for testing. Capture all official cattle identification into our USAHERDS database that appears on movement documents, laboratory reports, vaccination submission forms, etc. This information is the foundation for good animal disease traceability.

e) CDA will continue to train or send personnel to training so that they are proficient in the use of SCS, SCS Scrapie, AINMS, Prem Allocator, VSPS, EMRS2, AHER, and USAHERDS to access animal ID and premises information that is stored there.

f) Review and improve office processes with USAHERDS to constantly look for ways to improve upon our ability to capture and share data with the greatest amount of efficiency.

### 4) Outreach for electronic ID and CVIs

a) Continue to educate and encourage Colorado veterinarians to use improved methods of logging and recording official animal ID tags that they have used in

their producer's operations so that when we trace an official ID tag back to a veterinarian or clinic, they can quickly and efficiently inform us where those official ID tags were installed

b) We will identify veterinarians and livestock auction market veterinarians who need to bolster their animal ID record keeping through spot-checking those who are receiving official ID tags to see what type of log or index of animal ID tags installed and look at ways that we can provide customer support or options for a better method.

c) Develop SOPs to track non-compliance veterinarians and implement changes as needed to constantly look for ways to improve upon our ability to capture data on non-compliance and help improve veterinarians with their animal disease traceability business practices.

d) Report non-compliance issues to the Colorado AVIC to be included in AVIC USDA reporting mechanisms

e) Colorado assisted with the development of VET-CVI, an electronic CVI application that integrates movement data into USAHERDS. VET-CVI is also capable of recording brucellosis vaccination and tuberculosis test charts and integrates them into USAHERDS. These features allow for official identification RFID tags to be easily scanned into the test/vaccination charts as well as CVIs and assures these official IDs are easily searchable in the USAHERDS database. CDA has released this application to veterinarians and uses non-compliance issues as one way to suggest Colorado veterinarians use the application as well as has discussed this application at stakeholder meetings.

f) CDA is working with SaleTime to add VetModules to the SaleTime software system at auction barns to increase use of RFID tags and to increase traceability. Distribution of RFID tags, tag readers and software, along with demonstration of the tags and software, will take place at auction markets throughout the year.

### 4.3 ADT Trace Performance Measures (TPMs)

The USDA/APHIS establishes Trace Performance Measures (TPMs) with which to assess the procedures that are in place to perform a real life animal trace for each state. These TPMs set up a framework of exercises to measure the amount of time it takes to locate information related to an animal of interest. Each state is categorized according to the size of the cattle industry in that particular state and assigned a number of exercises in each of 4 different categories. Colorado is considered to have a large cattle industry and therefore is in one of the highest number categories of TPMs exercises to complete in each of the categories. Animal identification and livestock movement information is supplied to the state officials and the time to follow the animal trace to completion is recorded for each state.

Colorado Department of Agriculture (CDA) has used these TPMs as a basis for the Division's performance measures in the CDA Performance Plan and has served as an integral part of our overall Division's goals.

We strive to complete the required number of TPM exercises in less than 0.25 hours per exercise. We also complete real-life traces and report those quarterly. All of the NPTs are currently recorded using the USDA/APHIS database of EMRS2 and Colorado maintains a certain number of staff that is proficient in the use of EMRS2 and will continue using EMRS2 to record all TPM data. In addition, we will also notify and inform all USDA Veterinary Services – District 3, personnel and CDA staff and field personnel on the results of the trace performance measure exercises in order to educate them on our current achievements and create awareness for future trace exercises. We also aim to keep all field VMOs, AHTs, and CDA field staff involved in ADT activities in the State as it takes buy-in at all levels to assist our accredited veterinarians, livestock markets, and livestock producers in reaching our goals for ADT. By informing the VMOs and AHTs what we are doing well and what we need to improve upon, we enhance all aspects of ADT and TPM reporting with the State.

#### 4.4 Data requirements

We have the goal of keeping at least three staff members with access and proficiency to search for official animal ID and animal movement data located in the following nine databases:

AINM, SCS, SCS-Scrapie, EMRS2, VSPS, IMI Global, GVL, USALIMS, and USAHERDS. These are all databases that could be searched to find an animal of interest during a real-world trace-out scenario. This level of proficiency in multiple databases gives us the most rapid response possible in both real-world traces and NPTs.

This level of administration and reporting on official animal identification has helped us to highly value our objectives in increasing the number of electronic animal IDs in our USAHERDS database. We have set as a high priority the intention "to enter all animal ID data from CVIs, laboratory accessions, and other paper forms that contain animal ID into the USALIMS and USAHERDS database." CDA will continue that objective and also will work with Acclaim, the vendor for USALIMS and USAHERDS, to enhance traceability capabilities of the stated programs.

By providing for the increased ease of uploading animal IDs, we are able to provide better animal disease traceability along with a marked increase in accuracy of the ID numbers due to fewer manual transcriptional errors. To this end, CDA strives to continue to educate veterinarians and producers on the value of electronic official animal ID to their

business models, with the benefit of increasing animal disease traceability. The Division will continue to offer up to 180,000 no-cost EID tags, as allocated through USDA, to veterinarians who want to upgrade and use these tags for their clients' replacement livestock. We will continue to encourage and promote these electronic ID tags in young breeding cattle as these cattle usually end up as part of the "breeding herd" and is an excellent way to provide for the "bookend" approach to livestock traceability. Also, we have worked with many of the veterinarians who are using electronic CVIs to help them in migrating official animal ID tag numbers right on to the CVI so that all of those tag numbers automatically import into USAHERDS with the certificate.

CDA has taken the lead in designing and funding the creation of an electronic CVI (VET CVI) application that will allow the creation and sharing of CVIs for veterinarians. VET CVI has launched for veterinarian use and has 28 users. Currently, CDA staff members are developing outreach and education programs to demonstrate the benefits and highlights of VET CVI to accredited veterinarians in the state. VET CVI is being included in presentations at stakeholder meetings as well as being discussed with veterinarians during non-compliance outreach.

Official identification devices can run the gamut of sizes and shapes, and the Colorado Department of Agriculture has control over the distribution of three types; metal Official Calhhood Vaccinate (or OCV) ear tags, metal National Uniform Ear tagging System (or NUES) ear tags, and EID OCV and white button ear tags. These are to be distributed by the Animal Health Laboratory (AHL), a part of the Division of Laboratory Services at CDA. We are able to track the metal tags and the EID buttons and their sales to the veterinarians and producers that order them through AHL and the USALIMS laboratory information management system.

Additionally, official identification devices are sold through various tag manufacturing companies to Colorado producers directly, and this information is reported to the Animal ID Number Manager (AINM) database through SCS and SCS- Scrapie. CDA currently has three staff members that are trained and proficient in searching these and other databases for information on official animal ID and specific animals of interest.

#### 4.5 Information technology plan

It is part of the Division's plan to continue to educate and encourage Colorado veterinarians to use improved methods of logging and recording official animal ID tags that they have used in their producer's operations so that when we trace an official ID tag back to a veterinarian or clinic, they can quickly and efficiently inform us where those official ID tags were installed. We will continue to find useful options for veterinarians and promote their use whether it is hard copy records or electronic methods.

Another activity under this objective is to work towards the development and implementation of an electronic brucellosis vaccination form so that data that is entered by the veterinarian can be uploaded directly into the USAHERDS database. This will increase the number of official animal IDs in USAHERDS, provide better animal disease traceability, and improve our trace-back proficiency. CDA using funding from USDA has worked to help design and fund the program, VET CVI, which includes a digital format for submission of brucellosis vaccination records, tuberculosis test records as well as allowing veterinarians to create and share electronic CVIs.

With continued funding, CDA will continue to support and improve our existing programs within VETCVI and the USAHERDS database as well as work with livestock markets to offer the Saletime Vetmodule along with no-cost RFID tags, RFID readers, and laptops to help increase use of RFID tags, and digital CVIs in livestock barns.

Increasing the use of electronic records in all aspects of ADT is a primary goal of the Colorado Department of Agriculture. By continuing to increase the use of electronic CVIs with our accredited veterinarians, we help to make this data more searchable and accurate within our USAHERDS database. This helps us to have electronic records of livestock premises, animal IDs, and livestock movement information.

We are increasing the use of electronic records by working closely with the USDA/APHIS VS to facilitate electronic options for any traceability requirements in which it may be possible to use electronic submission options. Those electronic formats of data are much easier to share and/or trace than traditional data from paper forms or submissions. The Division plans to investigate and pursue work with Acclaim, the vendor for USAHERDS, to develop and adopt an electronic form for TB test charts and Brucellosis vaccination records so that data can be automatically uploaded into USAHERDS. In addition, CDA will work with other USAHERDS states to share the funding of building enhancements to USAHERDS that will improve electronic records, data management capabilities, and functionality.

The CDA field staff and traceability specialists at the State Veterinarian's Office have also assisted practicing veterinarians and CSU Veterinary Teaching Hospital staff in using MIM technology for capture of animal ID data when TB herd testing or in other situations. In addition, we will keep at least two CDA staff trained on use of PDAs, wands, and animal ID data capture to assist field efforts and for use in emergency management incidents. This aids animal ID data sharing and increases traceability through an expanded database of animal IDs.

## 4.6 Resource requirements

- The COOP is managed by our Emergency Manager and is tested 1-2 times per year.
- Continued resources are needed to support existing system maintenance and improvement such as that for our USAHERDS and VETCVI programs.
- Further resources are needed to continue to be able to provide livestock markets with the SaleTime VetModule, RFID readers, and laptops.
- Further resources are also needed to continue to provide RFID readers to veterinarians in the field.

## 4.7 Organizational needs

CDA Animal Health division currently has a full time Traceability Specialist and a full time Program Veterinarian dedicated to ADT processes and enforcement. They can leverage the Animal Health Divisions newsletter as well some industry stakeholder newsletters for communication purposes.

### 4.7.1 Executive support

Commissioner Greenberg is in full support of the Animal Health Division and works closely with the department. Our division provides a monthly newsletter which includes accomplishments, projects and alerts on testing directly to the commissioners office. The Colorado Department of Agriculture holds Town Hall meetings every other month.

### 4.7.2 Coordination and oversight procedures

### 4.7.3 Policy

CDA's import standards match or exceed the standards set forth in 9CFR part 86. As part of our own 1201-19 rule review within the state we ensure that our standards continue to meet updates and advance the ADT General Standards.

### 4.7.4 Staffing

Currently CDA Animal Health Division has an Animal Disease Traceability Specialist and a Program Veterinarian that perform most of the ADT program.

- The entire Animal Health division works towards promoting ADT with CVI revision, data entry, and follow up.

#### 4.7.5 Budget requirements

ADT funding predominantly supports the salaries for one traceability program specialist (95% of that salary and fringe benefits) and one Traceability Veterinarian also known as program veterinarian (40% of that salary and fringe benefits). The remainder of the funding goes towards monthly cell phone service for the program specialist and a portion of the annual maintenance cost of the USAHERDS database. The remainder of these salaries are provided by the Umbrella cooperative agreement. No additional funds are provided by the state or other outside agencies for these salaries.

Years two and three of this roadmap, salaries are projected to increase by a minimum of 3%, which will deplete the budget amounts available for cell phone service and USAHERDS maintenance.

Due to the salary, fringe and indirect cost increases over the next three years, cost sharing will need to be utilized. Without funding increases from USDA APHIS, Colorado will use funds from our operating budget provided by the state of Colorado. This will also be the course of action should there be budget cuts or other shortfalls.

#### 4.7.6 Outreach (required to be addressed within the Road Map)

##### *4.7.6.1 Accredited veterinarians*

An important part of ADT education and outreach is staying engaged with our Veterinary Medical Officers (VMOs) here in Colorado. These veterinarians have a front line role in disease outbreak investigations and traces and are the first point of contact for accredited veterinarians in many disease outbreak scenarios. Having each of them on board and engaged with ADT within their geographic area is critical to the efforts of education and outreach as they have experience with the producers in their area. In addition, they have built good working relationships with the livestock markets and market veterinarians in their area.

CDA continues to assist the USDA Veterinary Services efforts in the accreditation of veterinarians that are new to our state, as well as the veterinary students at Colorado State University. Assisting with these accreditation modules, whether it is with the content or with the actual course, gives us a chance to contact these veterinarians in a face to face manner and begin a professional relationship on the right foot. It is also the perfect opportunity to educate them on the currently available options for electronic CVIs and animal ID; showing them the benefits

that RFID tags can have for themselves as well as their clients, the livestock producers, and markets.

In addition, we have worked with the CSU Veterinary Teaching Hospital's field staff to move them forward in the use of electronic animal IDs and the use of electronic CVIs. By doing so, we also are educating a whole new group of future veterinarians about the increased capabilities of livestock traceability. Our Division staff also has the opportunity to present animal disease traceability presentations during their course work at the CSU veterinary school. Many of these future veterinarians will graduate and be employed in a veterinary clinic where they will teach the older generation of veterinarians how electronic animal ID can be used, utilized to improve their practice methods, and implement the use of electronic CVIs. We plan to continue to bring the new technology of electronic CVIs to the veterinary students at CSU Veterinary Teaching Hospital as a way to make ready the new wave of veterinarians that will help institute change among the veterinary profession. In addition, we will continue to keep traceability education and outreach as a priority and seek opportunities to further animal disease traceability in Colorado and across the nation.

CDA works with Colorado Veterinary Medical Association (CVMA) directly to help disseminate information to veterinarians working throughout Colorado and keep them apprised of any changes in animal identification.

#### *4.7.6.2 Slaughter plants*

The Colorado Department of Agriculture will do outreach as part of the USDA Approved Slaughter Plant inspection program, with a minimum of annual visits to all slaughter plants and quarterly for APHIS approved plants, as part of the Blood Tissue Collection program.

#### *4.7.6.3 Industry as a whole*

The Colorado Department of Agriculture will continue to build relationships with livestock producers, livestock market owners and managers, accredited veterinarians, and other livestock affiliated groups in the state through traceability education and outreach. Attending organizational meetings with these groups, such as Colorado Cattlemen's Association, Colorado Livestock Association, Western Dairy Association, Dairy Farmers of America, CSU Extension meetings and field days, CSU Veterinary Diagnostic Laboratory board meetings, CSU Veterinary Teaching Hospital, Colorado Veterinary Medical Association,

Colorado Livestock Market Association, Governor’s Forum on Colorado Agriculture, and many other livestock-related meetings presents tremendous networking opportunities and helps to build trusting relationships with key stakeholders. CDA staff often makes presentations at many of those meetings and utilizes these events to assist stakeholders in animal disease traceability (ADT) education, including specific information on implementing new ways to use electronic official animal IDs or CVIs. From troubleshooting with a veterinarian about an electronic CVI issue to helping a market veterinarian understand the importance of record keeping requirements as described in the ADT rule, we are always available to these stakeholders. Keeping their needs in mind, knowing how those needs are affected by the ADT rule, and how compliance can integrate best with their business model has helped to build a trusting relationship with the state’s stakeholders.

#### 4.8 Monitoring and reporting interstate movement activity

We are committed to finding ways to increase our efficiency in regards to reporting and completion of quarterly reports on animal IDs and livestock movements to the USDA/APHIS. We currently track this information through more than one source, mainly using USAHERDS, the GVL database, and VSPS to generate custom reports. We use spreadsheets and pivot tables to give us the numbers requested for those reports and reviews with USDA/APHIS. This also serves as a way to continue to track our own performance on retrieving traceability information, our performance on the NPTs, and our progress in our Division performance measures for the CDA Performance Plan. We will continue to look for new ways to export our data to provide better reporting. For example, we were recently able to improve our reporting by developing a way to report to USDA Veterinary Services the number of cattle officially identified on interstate CVIs or other movement documents for shipments into Colorado. USAHERDS is a flexible database and we are committed to working with the database vendor, Acclaim, to improve upon both the reporting capabilities and how searchable the database is in order to best serve the needs of Colorado.

## V. ADVANCING TRACEABILITY

### 5.1 Ranking of priorities for advancement

- Continue to educate veterinarians and producers on the value of electronic official animal ID to their own business models, with the benefit of increasing animal disease traceability. Over the next 6-12 months Colorado will be phasing out the distribution of metal OCV and metal Brite tags and go strictly to distribution of EID tags.
  - CDA will support ADT enforcement efforts if/when EID tags become the sole official identification devices available.
- The Division currently offers no-cost EID brucellosis tags & EID White Brite tags to veterinarians who want to use this option for their clients' livestock. With continued funding we will continue to offer the no-cost program to assist in EID tag promotion and advance traceability in Colorado cattle.
- CDA will continue to provide activities to educate and provide information about the no-cost EID program to veterinarians and producers, provide outreach programs and courses to inform producers and veterinarians about EID technology and the benefits these devices can provide to livestock producers. This program requires veterinarians and producers who receive tags to report the application of those tags for our records (date, time, place, reason, etc.)
- CDA has in the past sent out LPR EID readers to producers and veterinarians and will continue to do so as funding allows. We will also continue to send AWR300 readers to livestock markets along with assisting markets who use SaleTime software to implement the VetModule in order to track EIDs, eCVIs and increase traceability efforts as a whole.
- Continued work with veterinarians who are using electronic CVIs to help them in migrating official animal ID tag numbers right on to the CVI so that all of those tag numbers automatically migrate into USAHERDS.
- CDA will continue to partner with other states and USDA personnel to look for new efficiencies that could be developed between databases of different States, and also between State and Federal databases in regards to sharing and migration of the animal ID information in a timely and uniform manner.

## 5.2 Implementation of objectives

Accepting that each year's cooperative agreement work plan will likely be a collection of objectives, CDA will continue to work towards fulfilling the objectives outlined in that work plan and will continue to modify and rank the above priorities for advancement, as listed above. These priorities will be ranked accordingly within the ADT work plan budget requirements and availability of CDA staff assigned to ADT duties.