

Report of the Committee on Livestock Identification
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Vice Chair: Kevin Maher, IA

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The Committee on **Livestock Identification** met on October 27, 2015, at the Rhode Island Convention Center in Providence, Rhode Island, from 8:05AM to 11:35AM. There were 61 members and 29 guests present. An overview of the agenda, mission statement and sign in process was reviewed at the beginning of the meeting.

The following agenda was followed, and a summary of each presentation is listed below:

USAHA Committee on Livestock Identification
 Tuesday, October 27, 2015, Providence, RI
 8:00am-12:00pm; Ballroom B (Convention Center)
 Chair: Bill Brown
 Vice Chair: Kevin Maher

Time	Topic / Title	Presenter(s)
8:00 – 8:05	Opening Comments – Committee Purpose and Objective	Bill Brown, Kevin Maher
8:05- 8:30	ADT Overview - approved tagging sites and approved livestock facilities– Neil Hammerschmidt	Neil Hammerschmidt, (APHIS-VS)
8:30 – 9:00	UHF Tag State Projects - (15 min. per state)	Drs. Tahnee Szymanski (MT) Alex Turner (CO)

9:00 – 9:15	Swine ID – Swine traceability from a production company perspective	Dr. Maryn Ptaschinski, (Cargill)
9:15 – 9:30	Application of the Swine ID Plan Program Standards to Business	Dr. Patrick Webb (NPB)
9:30 -10:00	Time Specific Presentation: National Survey results - CVI and ADT compliance– via State ADT Coordinators and State Veterinarians- (one per state)	Kendra Frasier (KS)
10:00 – 10:30	Agricultural Animal Population Database and Case Study for the DTRA BSVE	Meg Rush, Ph.D. (Gryphon Scientific)
10:30 – 11:15	Panel discussion of previous presenters (questions via card)	Previous presenters
11:15 - 11:25	Update of Resolution #26 ‘Development of a Web-Based Solution for Interstate Movement Requirements of Livestock’	Kathy Finnerty (Trace First)
11:25 – 12:00	Business Meeting	Committee members

The above presentation summaries are listed as follows:

Title: Animal Disease Traceability Update

Presenter: Neil Hammerschmidt

Affiliation: APHIS-VS

Animal Disease Traceability Update

Traceability Performance Measures - First Comparison to National Baseline Values

Animal Disease Traceability (ADT) is a performance-based program focusing on improved traceability. This approach will ensure we document tracing capability progress. Traceability performance measures were developed by the State/Federal Regulatory Working Group (WG) in 2010 that provided input to the content of the traceability regulation. These measures align with activities or actions that are typically associated with the administration of trace back investigations. The WG designated these specific activities for measuring performance as they can be uniformly measured regardless of the complexity of the trace. The activities measure the lapsed time it takes to answer four specific questions:

1. In what State was an imported animal officially identified?
2. Where in the State was the animal officially identified?
3. From what State was an animal shipped?
4. From what location was an exported animal shipped?

The duration, or lapsed time, is measured when completing an exercise. The start time is when the State is notified of the official identification number, and the end time is when the State finds the information to answer the question posed by the Activity. Additional explanation for the administration of the trace performance measures used for the 1st year comparison is contained in the document, “Guidelines for Administering Test Exercises”, December 17, 2014.

National Baseline Values

The first objective was to establish baseline values for the United States that reflect the average lapsed time to complete each Activity prior to the implementation of ADT. Trace test exercises were conducted through cooperative agreement periods of FY 2012 and FY 2013. The number of records received was more limited than projected and there were apparent variations in the interpretations of the Activity measures. As a result, supplemental exercises were conducted for Activities 2, 3, and 4 as part of the FY 2013 cooperative agreement period to ensure adequate numbers of records were received and analyzed in establishing national baseline values. The resulting national baseline values are summarized in Table 1.

Table 1. Traceability Performance Measures – National Baselines

# Performance Activity Description	National Baselines	
	% Successful	Time
1 In what State was an imported animal officially identified?	NA ¹	NA ¹
2 Where in the State was the animal officially identified?	69%	88 hr.
3 From what State was an animal shipped?	58%	138 hr.
4 From what location was an exported animal shipped?	76%	264 hr.

¹ Activity 1 is only applicable for 840 identification numbers as the State abbreviation is the prefix for the NUES tags which answers the question posed by Activity 1. Evaluation of Activity 1 will be made as the use of 840 tags becomes more significant.

1st Comparison to the National Baseline Values

The administration of the same traceability performance measures conducted to achieve the national baseline values were continued through the ADT Cooperative Agreements in FY 2014. The “Guidelines for Administering Test Exercises”, December 17, 2014 document provided information and guidance to the State and APHIS VS personnel regarding the administration of the exercises. The guidelines for FY 2014 cooperative agreement period included an objective for the number of traces that each State was to complete for cattle for Activities 2, 3, and 4. The assigned number or “quota” was based on the States’ cattle population ranking. For example, Texas had a quota of 10 traces for each Activity while Connecticut’s quota was 4. Based on the assigned quota, approximately 350 records were anticipated for analysis and summarization for Activities 2, 3 and 4.

Tables 2 and 3 reflect various methods used to summarize and review the data. The average of all trace records received using no “weighted” adjustments were 35, 34, and 50 hours respectively for Activities 2, 3 and 4. Additionally, each State with four or more records was averaged. The average of all States combined was 31, 37, and 40 hours for Activities 2, 3 and 4 respectively. Finally, the quota assigned to each State was used to account for the distribution of the cattle population to arrive at weighted values. For example, Texas is weighted 10 compared to Connecticut at 4. This weighted method resulted in values of 35, 42, and 46 for noted activities.

Table 2. Summarization of Traceability Performance Measures

# Activity	Average All Records (Hrs.)	State Average (Hrs.)	Weighted Average (Hrs.)
1 In what State was an imported animal officially identified?	39 ¹	--- ¹	--- ¹
2 Where in the State was the animal officially identified?	35	31	35 hr.
3 From what State was an animal shipped?	34	37	42 hr.
4 From what location was an exported animal shipped?	50	40	46 hr.

¹ Administration of Activity 1 is based primarily on the completeness of records maintained in the Animal Identification Management System (AIMS) operated by APHIS VS versus State systems. Therefore, the average of all records submitted by the States is used for the analysis of this performance measure.

Table 3 provides the comparison of the 1st year results to the national baselines established in 2014. The weighted method explained above is used for the first comparison to the national baselines for Activities 2, 3, and 4. This approach helps minimize potential bias that could result if the average of all States was used entirely to arrive at the traceability performance measure values for Activity 2, 3 and 4. Since Activity 1 is not specifically based on the States' record keeping systems, the average of all State records received are used to reflect the current traceability measure for that Activity.

Also in Table 3, the total number of records received and number of traces completed are used to reflect the percent of time information was successfully retrieved to answer the question posed by each Activity. For example, the national baseline values indicate that information was successfully retrieved 69% of the time for Activity 2. In the 1st year comparison, this value increased to 88%.

Table 3. 1st Comparison to National Baseline Values

# Performance Activity Description	National Baselines		1 st Year Comparison		Baseline and 1 st Year Average
	% Successful	Time	% Successful	Time	
1 In what State was an imported animal officially identified?	NA	NA	88%	39 hr.	- - -
2 Where in the State was the animal officially identified?	69%	88 hr.	88%	35 hr.	62 hr.
3 From what State was an animal shipped?	58%	138 hr.	85%	42 hr.	90 hr.
4 From what location was an exported animal shipped?	76%	264 hr.	88%	46 hr.	155 hr.

The emphasis placed on record keeping systems to retrieve data associated with the performance measures has resulted in a favorable trend for improved and more timely traceability. It is important to acknowledge again that the data used for the national baseline values reflects time to retrieve information prior to the implementation of the ADT. The events associated with establishing the national baseline values reflect events from 2009, 2010, and 2011 (date of tags applied/distributed, date of interstate shipment). For the first year comparison, event records from 2012, 2013, and 2014 were primarily selected. Therefore, the year one comparison is based on records that are much more current, which alone would likely make those records more readily available. As States and APHIS VS continue to improve record keeping processes, both internally and with accredited veterinarians, tagging sites, tag manufactures, etc., the traceability performance measures are anticipated to be maintained or improved. Additionally, increased use of electronic record keeping systems is expected to decrease the time required for searching records to trace livestock. The ongoing administration of the traceability performance measures through the current cooperative agreement period will help document continued progress as well as identify possible limitations to the current ADT infrastructure.

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Title: UHF Tag State Projects
Presenter: Tahnee Szymanski, DVM
Affiliation: Assistant State Veterinarian – MT

A summary of the progress to date of Montana's participation in the USDA ultra-high frequency project. Montana's objectives in the project were:

- To evaluate the potential for reading UHF tags at the speed of commerce
- To evaluate the use of UHF tags for animals sold at a Montana livestock market
- To increase the efficiency and accuracy of collecting animal identification and subsequent generation of vaccination, laboratory submission, and interstate movement documents.

MDOL is evaluating the tags at two Montana livestock markets and a heifer development feedlot. To date, Montana has been able to document the practical use of both electronic systems in general as well as the UHF RFID tags. The benefits demonstrated include:

- Decreased processing time
- Decreased personnel requirements
- Improved accuracy
- Generation of electronic health documents and electronic transmittal to state animal health officials

Title: UHF Tag State Projects
Presenter: Alex Turner, DVM
Affiliation: ADT Coordinator - CO

UHF Tag State Projects - Alex Turner (CO)

An update on 5 of the locations where UHF tags are being used for the project in Colorado. Blue Valley Ranch, Brush Livestock Market, herds with Dr. Chard in Nebraska and NE Colorado, The Robertson Family Ranch in NW Colorado and the Western Slope Livestock Market in western Colorado. Producers seem to prefer the smaller UHF ear tags, and they seem to have a slightly higher retention rate. The read rates and retention rates overall have been 100% and about 96%, respectively. Interestingly, almost all of the users in the project have gone on to buy their own tags and equipment to continue to use the UHF tags in their own herd management and market situations.

Title: Swine traceability from a production company perspective
Presenter: Maryn Ptaschinski, DVM
Affiliation: Cargill Pork

In modern pork production business decisions that affect health, movements, and marketing are based on the analysis of large amounts of production data that are gathered through normal business practices. The data that is captured by production systems contains more information than is needed by State and Federal Animal Health Officials in disease investigations and while many State and Federal officials have utilized this data it is beneficial to highlight how data is captured and managed for day to day health management.

The volume of swine movements in production systems has evolved as a result of a transition from single to multiple site production and moving growing pigs to areas where there are significantly lower costs for feeding market swine. The identification of swine moving between States complies with 9 CRF 71.19 (Identification of swine in interstate commerce), and health papers and commuter agreements serve to document health status and report movements to regulatory officials. It is important to understand that the type of identification that a production system chooses to use also integrates into production records for business and health purposes.

Swine production systems contain the most complete source of pre-harvest traceability data that accounts for the introduction of new breeding stock into the herd, movement of weaned pigs and marketing of market hogs and breeding stock. In some cases where sow farms reside in the same State as the wean-to-finish sites the production system records may be the only source that can be used by animal health officials to trace out and trace forward animals involved in disease investigations.

Once captured, the traceability data does not stay idle and is used to by the herd veterinarian to carry out activities that are related to health and production. This information is valuable when managing breeding herds or investigating outbreaks of endemic diseases like Mycoplasma and Circovirus in wean to finish herds. The key is that swine production systems capture and utilize pre-harvest traceability as a course of

normal business and can be a valuable partner in aiding animal health officials in official investigations when disease investigations are warranted.

Title: Application of the Swine ID Plan Program Standards to Business Continuity

Presenter: Dr. Patrick Webb, DVM

Affiliation: National Pork Board

The identification of swine in interstate commerce has been codified since the late 1980s, which has driven the use of official identification tags, devices or methods in the pork industry. The official premises identification number (PIN) is the cornerstone of the swine ID program standards. This officially recognized site identifier provides benefits as a common denominator used for group/lot identification, official identification of animals in harvest channels, disease surveillance, emergency preparedness and response, business continuity and product attribution.

Production data is important throughout the pork chain. There are prodigious amounts of data captured by producers, veterinarians, and packers that support day to day operations and decision making that help bring safe, wholesome and affordable pork to consumers in the U.S. and around the world. Data is also important for state and federal animal health authorities, veterinary diagnostic labs, and private companies who generate and capture data that supports animal health and commerce of live pigs, pork and pork products.

Much of the data being used for business and regulatory purposes sits in disparate databases and is usable to the audience(s) that have access. This is an approach that works fine for carrying out normal operations but is not ideal when data needs to be shared to respond to an incident like Foot and Mouth Disease. The challenge is not where data is located. The chances of one database containing everything needed to make decisions in an outbreak is low. The challenge is how data is captured, linked and shared when it is needed to help support decision making.

The nationally standardized PIN provides an opportunity for the pork industry to integrate PIN's into business practices that will support the ability to share data for analysis and decision making during FAD incidents. The challenge is influencing adoption of practices that facilitate integration. Integration works most efficiently when the use of PIN's are part of a program or needed for doing business. For example, the outbreak of PEDv in the pork industry underscored the importance of site identifiers on veterinary diagnostic laboratory submission forms. Educational efforts helped drive adoption during the outbreak however USDA's policy on paying for PEDv diagnostics only for samples that have PIN's facilitated compliance.

The Secure Pork Supply Plan is another example where the integration of PIN's into movement records, diagnostic data, and active observational surveillance and site biosecurity verification provides a mechanism to link data in multiple data sources so it can be shared through technologies like Ag Connect to develop a common operating picture to support business continuity if a FAD incident.

Recently the Center for Food Security and Public Health piloted the producer components of the SPS plan with an Iowa based production system and packer processor, State and Federal animal health officials, FSIS and the Institute for Infectious Animal Diseases and the National Pork Board. The pilot was successful and demonstrated how PIN's can be used to link data in different databases so it could be visualized by animal health officials for decision making purposes. The pilot is being expanded to assess the plan when multiple States are included and movements would occur across State lines for business purposes and expected to be complete by the end of FY 2015.

Time Specific Presentation:

Title: National Survey results - CVI and ADT compliance– via State ADT Coordinators and State Veterinarians

Presenter: Kendra Fraiser

Affiliation: ADT Coordinator, KS

Report Summary: ADT and CVIs – A National Survey

After conversations at the 2015 Western States Livestock Health Association meeting, a survey was created to determine where states stand on several traceability-related issues, including the use of PINs vs LIDs, NUES tags vs 840 tags, movement documents and electronic capabilities. The survey was emailed to the National Assembly in August 2015, and requested the State Veterinarian, an assistant state veterinarian or an Animal Disease Traceability coordinator fill out the online questionnaire. Forty-eight states responded (46 responses were complete), and responses were captured identifiable at the state level. Generalized responses for some questions are below.

- Does your state use primarily PINs or LIDs? – 46 states responded
 - 31/46 states primarily use PINs, 11/46 states primarily use LIDs, and the rest did not indicate a clear preference
 - Average national usage rate : 70% PINs and 30% LIDs
- Do you have intrastate traceability regulations in place? – 46 states responded
 - 19 states do have intrastate regulations (41%), and 27 states do NOT have intrastate traceability regulations (59%)
 - When asked “when do the regulations apply” returned a large range of answers
- Of 46 respondents, 40 primarily use NUES tags, while 6 primarily use 840-RFID tags
 - Secondary tags are predominantly 840-RFID, with NUES and 840-visual or other tags
 - Only 14/47 respondents (34%) have used state postal abbreviations on NUES tags
- How are tag distribution records maintained when provided to vets, tagging sites or tag distributors? – 47 respondents
 - Responses varied from maintaining NUES tag records paper/electronically at their office, paper/electronically in the state office, and data searchability varied across the country
 - 840 tag maintenance is split between the AIMS system (USDA) or state-level electronic databases
- Most states primarily use ICVIs as movement documents, while a few (3%) use brand inspections or other forms
- GVL is the most popular electronic CVI system (47%), followed by VSPS (22%) and the fillable PDF eCVI (12%)
- How can we increase the use of electronic CVI systems? Answers ranged from requirements, to incentives (both financial and hardware), to targeted outreach with veterinarians.
- A variety of electronic data systems are used across the country, and the amount of captured searchable CVI data ranged from 0% (11 respondents) to 100% (16 respondents), with a relatively even distribution between.
- Is ADT enforced beyond collection points (i.e. livestock markets)? – 45 respondents
 - 35 states (78%) do enforce ADT at a variety of points; 10 states (22%) only practice enforcement at collection points

The drive toward electronic information, including official tags, ICVIs and database systems will continue, and this survey was helpful in identifying states that have been successful in implementing systems or practices.

Title: Agricultural Animal Population Database and Case Study for the DTRA BSVE

Presenter: Meg Rush, Ph.D.

Affiliation: Gryphon Scientific, MD

Abstract:

One of the missions of the Defense Threat Reduction Agency's (DTRA) Chemical and Biological Technologies Directorate (CB) is to safeguard the United States from chemical and biological threats. In support of this mission, DTRA CB initiated the Biosurveillance Ecosystem (BSVE) project to develop a system that accelerates 'detect – identify – respond' capabilities for disease outbreaks and other biological threats. The development model for the BSVE allows for many different contractors to create applications that will bring new data feeds or analytical tools into the BSVE. Recognizing the importance of animal species in the transmission of many important human diseases, Gryphon Scientific and SES, Inc. have initiated a project to bring agricultural animal population and production practice data into the BSVE and to then perform a case study to explore the utility of these data to inform BSVE surveillance. In addition to informing zoonotic disease prediction, the collected animal population data have the potential to be a useful decision support tool for State Animal Health Officials in planning for and responding to animal disease outbreaks.

We propose to focus the presentation to the USAHA Livestock Identification Committee on the work performed in the first year of the project. We have developed a methodology to estimate seasonal, county-level commercial animal populations using data from the United States Department of Agriculture (USDA) Census of Agriculture (CoA) and USDA surveys. Additionally, we have re-classified data from the Census to estimate the frequency of specific production types (such as feedlots, or cow-calf operations). Our estimated population data set could be significantly improved with the addition of data held by the States, such as Concentrated Animal Feed Operation Permits. During initial State data collection efforts, we received feedback from multiple States expressing concerns over producer privacy. In response we developed a proposal to help alleviate privacy concerns. To ensure producer privacy, we will summarize data contributed by the States to the BSVE at the Agricultural District level (which incorporates multiple counties into a single region). Additionally, we plan to develop a system that allows States that have contributed Agricultural District data for use in the BSVE to store more detailed data in a restricted area that is only accessible to the States and trusted partners they designate, to improve their ability to plan and respond to agricultural disease outbreaks.

The next steps in the first year of this project will be to develop metadata describing production practices for BSVE users with little background in agricultural production. For example, we will provide estimates for the relative frequency of human-animal contact. Additionally, we are working to collect auxiliary datasets that may serve as risk factors for zoonotic disease transmission, including state and local fair dates and state-level regulations. Together with the animal population data, these data will inform a case study in Year 2 to explore the utility of animal population data for predicting or characterizing zoonotic disease outbreaks in human populations.

Title: Update of Resolution #26 'Development of a Web-Based Solution for Interstate Movement Requirements of Livestock'

Presenter: Kathy Finnerty

Affiliation: Trace First

In 2013 the USAHA Livestock Committee put forth Resolution 26 to support the creation of and maintenance of a publically accessible resource that compiles identification, documentation, disease-specific, and other requirements for moving livestock interstate. USAHA partnered with the National Institute of Animal Agriculture and garnered funds from USDA Veterinary Services - Animal Disease Traceability program. A competitive bid process was initiated in January 2015 and the contract was awarded to Trace First in March 2015.

There are two main tasks to the project, development of the web site and associated tables to house the data; and communication with states to gather and prepare the information that feeds the web site.

Information on entry regulations was requested from the states in a question and answer format. The information was parsed out by type of facility, type of cattle, sex, age, etc. to the point of a specific regulation for the particular set of cattle. Some states have multiple sets of regulations to meet entry of animals from tuberculosis, brucellosis and/or vesicular stomatitis affected states or areas. As the web site starts with choosing an origin state and a destination state it can accommodate specific regulations for states that have further testing regulations. As well, a set of emergency regulations for an outbreak, such as vesicular stomatitis, can be entered and set as inactive, ready to be activated in the case that there are additional entry regulations for states with the disease.

To date entry has been completed for 40 states. The total data includes 108 sets of regulations, 1147 questions, 2571 questions and 640 entry regulations

Committee Business:

Called to order by Committee Chair Bill Brown.

No old business.

New business resulted in a motion and unanimous approval of the resolution from the Committee on Infectious Diseases of Horses entitled "Record and Electronically Capture Name and Description of Mexican Imported Equine"

No further action occurred during the business meeting. The meeting adjourned at 11:35 A.M.