

## REPORT OF THE COMMITTEE ON LIVESTOCK IDENTIFICATION

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The Committee met on October 22, 2013 at the Town and Country Hotel in San Diego, California from 8:00 a.m. to 12 p.m. There were 53 members and 50 guests present.

Opening comments included a review of the committee mission/purpose and general rules for participation. Dr. Tony Forshey offered comments and perspective of the Animal Disease Traceability (ADT) Forum that was held in Denver in August 2013, and summarized key challenges.

### **Animal Disease Traceability (ADT) Report - Monitoring and Compliance**

Neil Hammerschmidt, USDA-APHIS-VS

The "Traceability for Livestock Moving Interstate" regulation establishes requirements for the official identification of livestock and documentation for certain interstate movements at title 9 of the *Code of Federal Regulations* (9 CFR), part 86. Covered livestock include cattle and bison; horses and other equine species; poultry, sheep, and goats; swine; and captive cervids. Animals of these species, unless otherwise exempt, are required to be officially identified and accompanied by an Interstate Certificate of Veterinary Inspection (ICVI) or other movement document.

Tracing capability is directly associated with levels of compliance; that is, State and Federal animal health officials will not have information to support traceback investigations if they do not meet the regulation's requirements. Animal and Plant Health Inspection Service (APHIS) has placed a priority on obtaining a high level of compliance with the traceability regulations through efficient and effective use of existing resources, including field personnel. Federal animal health officials will take the lead in enforcing the Federal requirements. However, States are encouraged to help oversee the various requirements. Likewise, accredited veterinarians have a key role regarding compliance with our regulations.

APHIS, Veterinary Services unit (VS), through the efforts of a State-Federal working group, has drafted a document to help unify the processes and practices that will be used to monitor traceability regulation compliance. The monitoring and compliance report provides general guidelines that VS, State, and Tribal animal health officials may use to help ensure high levels of compliance. Official identification and movement documentation requirements provide basic information essential for traceability and are the main elements for monitoring compliance with the traceability regulation. The report guidelines offer administrative processes that can be carried out by reviewing various records. The guide also recommends field activities for supporting compliance monitoring.

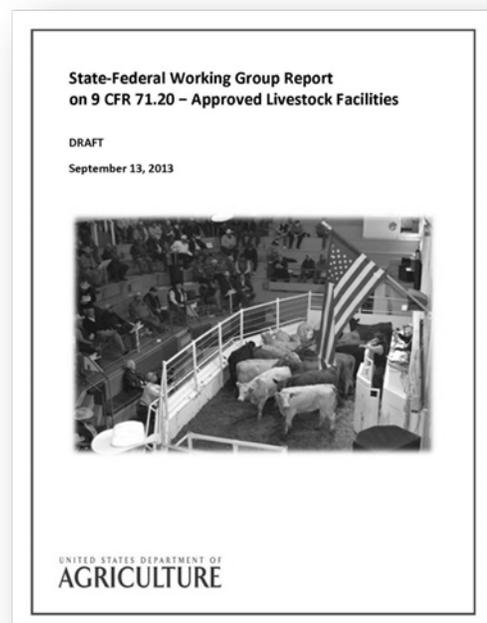
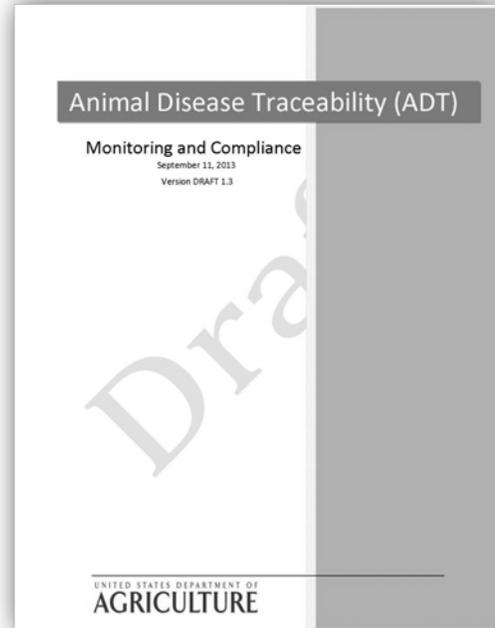
## APPROVED LIVESTOCK FACILITIES

Animal health programs and associated surveillance activities can run more efficiently when State and Federal animal health officials have access to locations and facilities where animals are commingled from various sources. This is particularly important when animals move to multiple destinations from those locations. APHIS has established regulations to support the administration of animal health and disease programs at some of these locations when livestock move interstate. One important regulation is at 9 CFR 71.20, "Approval of Livestock Facilities." This section applies mainly to livestock markets and stockyards.

Several of the requirements in 9 CFR 71.20 were based on the needs of disease eradication and control programs. For example, the regulation establishes requirements for handling brucellosis reactor, suspect, or exposed cattle and for handling cattle from States with different brucellosis class designations. As the United States has reached brucellosis-free status, 9 CFR 71.20 as written has become less relevant to the needs of State and Federal animal health officials. State licensing as well as Federal approval of livestock markets may subject markets to duplicate inspections. Other changes, including the availability of market veterinarians, have compelled APHIS to examine and possibly modernize the regulations to meet current and changing livestock marketing practices.

APHIS established a State-Federal working group to review 9 CFR 71.20. The group prepared a report with recommendations for revising the regulation to meet current needs and marketing environments. Key points in the working group's report include:

- Giving State and Federal animal health official's access to facilities and records, including facilities that are not approved.
- Making all interstate movement requirements applicable to all facilities, regardless of approval status.
- Allowing market owners or managers to choose if they want to have their facility "approved."
- Approval status is not a requirement to be eligible to handle livestock moved interstate.
- Per the existing traceability regulations, certain exemptions apply only if a facility is approved, e.g., for cattle:
  - Using backtags in lieu of official ID for cattle moving directly to slaughter through one approved livestock facility.



- Requiring an ICVI unless moving to an approved livestock facility.

APHIS would continue to administer approval agreements in cooperation with States, but the agreement would not be contained in the *Code of Federal Regulations*.

### **Discovering Value from Traceability beyond Animal Disease Traceability (ADT)**

Dan Buskirk, Associate Professor/Beef Extension Specialist, Michigan State University

There are three primary objectives for creating traceability systems: 1) improving supply chain management; 2) facilitating traceback; and 3) differentiating and marketing credence attributes. Efforts to facilitate traceback, such as ADT, may be enhanced as the other two objectives are expanded. In other words, voluntary use of individual, unique identification (ID) of cattle may be increased if there were monetary returns associated with various ID applications. A number of applications using ID have been developed that may be classified as improving supply chain management with live cattle, but to date commercial use has been limited. Differentiating and marketing credence attributes of beef has the potential to derive value from consumers who are seeking to buy local and understand the origin of their food. Radio frequency identification (RFID), barcodes, web databases and mobile devices may provide tools which will help share our story, add value, and increase participation in animal traceability. A local beef supply chain initiative in Michigan has used these tools to develop a farm-to-consumer traceability model with the objective of marketing credence attributes.

### **ADT – Working Together to Address State Inconsistencies, Implementation Challenges and the State Veterinarian Survey Analysis**

Chelsea Good, Vice President of Government and Industry Affairs, Livestock Marketing Association

Chelsea Good discussed some of the implementation challenges with the federal ADT rule. One major challenge is increasing knowledge and understanding of the rule both within state and federal animal health staffs and especially within the regulated community. Additional challenges include ensuring easy producer access to tags and issues with having to rework cattle, especially dairy steers, to read tags. Despite not being required by the federal ADT rule, some states require dairy individual IDs for dairy steers to be listed on the health certificates. This has caused difficulty for markets who have worked with producers to get the dairy steers officially identified before they get to the market.

Ms. Good discussed the need for consistent application of the federal rule. She emphasized the need to recognize this rule as it applies to all cattle and not just those moving through markets, and that when enforcement occurs, it should be applied consistently regardless of method of selling the livestock.

While ADT was designed to provide flexibility, variables across states increase the challenges to transition and implement the new approach. Ms. Good reviewed the results of an ADT implementation survey that was conducted in July 2013 by USAHA, the National Institute of Animal Agriculture (NIAA), the United States Department of Agriculture (USDA), and Livestock Marketing Association (LMA). As anticipated, the survey, which was completed by 43 states, showed a great deal of variation in what states were accepting to meet the federal ADT requirements as well as a variety of additional state-specific identification requirements.

Another challenge is the fact that this ADT rule is in addition to other state-specific identification, documentation, and disease-specific requirements. There is frustration with no easy resource to know what all the requirements are for moving to different states, especially when the response to “call the state veterinarian’s office” doesn’t work for markets with weekend sales.

### **USDA-APHIS Modeling livestock movement in the United States and its applicability to traceability**

Katie Portacci, DVM, MPH, DACVPM, Veterinary Epidemiologist, USDA, Animal and Plant Health Inspection Service (APHIS), Veterinary Services (VS)

When this project began in 2009, there were no quantitative data available on how livestock move in the United States. Efforts to improve the National Bovine Tuberculosis program were underway and a pathways assessment revealed some disease spread may be contributed to cattle movement within the United States. Without a way to evaluate disease spread and cattle movement together, it was challenging to evaluate strategies to combat this pathway.

USDA initiated an effort to develop a data-driven cattle movement model and apply disease simulation models to enhance the ability to evaluate mitigations options at the national scale, prioritize

tracing, establish regions, and model disease spread. This effort became a partnership between several universities and (State and Federal) government agencies.

The most comprehensive data source on cattle movement is the Interstate Certificate of Veterinary Inspection (ICVI). Because electronic ICVIs represented less than 4% of cattle movements in 2009, paper records were collected from 48 States (one state did not participate and one state did not have cattle records). Each state provided at least 10% of their records, resulting in over 19,000 records from 2,433 counties. It took several students over 1,500 hours to enter this data.

Each state has its own ICVI and the differences in these ICVIs were evaluated. Assessment of Paper Certificates of Veterinary Inspection to Support Animal Disease Tracing; Katie Portacci, et al.; Journal of the American Veterinary Medical Association. 2013

Across all 49 states, origin address was present 90% of the time, but a destination address was only present 55% of the time. Official identification was present 33% of the time, although most ICVIs do not specifically request an official identification.

The data from the states was used to describe the network of cattle movements in the United States. A national-scale picture of U.S. cattle movements obtained from Interstate Certificate of Veterinary Inspection data; MG Buhnerkempe, DA Grear, K Portacci, RS Miller, JE Lombard, CT Webb; Preventive Veterinary Medicine. 2013.

The majority of shipments were 0-10 animals, with very few shipments larger than 300 animals. The ICVIs contained short and long distance movements, but many short distance movements were noticed. When comparing the network at the county versus state scale, it is apparent that the county scale is more informative of movement. There are many counties with few shipments, but a few counties with many shipments. This effect gets diluted at the state scale.

The network described above is informative, but only reflects the records collected from 2009. Developing a model of cattle movement allows us to scale up these movements and incorporate uncertainty. A Bayesian Approach for Modeling Cattle Movements in the United States: Scaling up a Partially Observed Network; Tom Lindström, Daniel A. Grear, Michael Buhnerkempe, Colleen T. Webb, Ryan S. Miller, Katie Portacci, Uno Wennergren; PLoS One. 2013.

The United States Animal Movement Model (USAMM) incorporates the distance kernel derived from the 2009 data, along with National Agricultural Statistics Service (NASS) inflow and farm density data to model the movement of cattle between two counties. The 2009 observed network is used for county and state level validation of the model predictions.

For traceability, we can use the model information in situations where no information is available about a diseased animal. The model will help us understand the most likely origin or destination counties for that animal. If we pair that with disease simulations, we can start to prioritize these tracing or surveillance efforts.

Recognizing the dynamic nature of the cattle industry, the USAMM is continuously improving. We have entered 100% of records from California, Texas and Michigan from 2009 which improves our confidence in the adequacy of the 10% sample size. We are also working with some states to validate the within state model predictions and collecting additional years of data from eight states to improve the temporal depth. We have also collected a sample for swine to begin building a national movement model for swine.

USAMM is being used in conjunction with the United States Disease Outbreak Simulation (USDOS) to understand the impact of mitigations on an FMD outbreak at the national scale. We are also applying USAMM to help improve our understanding of bovine TB spread.

## **Effects of Current ADT Rules on Livestock Markets**

Chuck Adami, Equity Cooperative Livestock Sales

Mr. Adami discussed two market studies of the work flow and associated costs at Monroe, Wisconsin and Waukon, Iowa, markets.

In cases where animals are tagged on arrival to the market, they use a squeeze chute prior to sale and the process causes a bottleneck. It takes about 30% greater time and if they read tags, it is 40% greater time required over normal processing, not including man hours and related costs.

They would like to find a way to move animals more efficiently within an efficient space and facility – with the use of affordable technology. No technology is available to read electronic identification (EID) tags and associate or integrate the ID information with their sales management system.

Automating the "wanding" of animals with EID on arrival, and again after leaving ring, to associate animals with the new buyer and to integrate the ID information into their sales system - as well as with the vet for a printout of IDs on an ICVI is needed.

The manual process currently requires them to correlate the back tag to bright-tags.

Age of market facilities is an issue as well as technology. In their current system, manual IDs are read three times and causes extra costs that need to be reduced.

#### **Data Transfer Standards Committee Update**

Mr. John Picanso. USDA-APHIS-VS and Mr. Michael McGrath, Trace First

Mr. Picanso reviewed work of three U.S. initiatives specific to: (1) the principles of data sharing, (2) standardizing data elements used with Interstate Certificates of Veterinary Inspection (ICVI) for interstate movement, and (3) data exchange standards, for moving standardized data used for ICVI's.

Picanso mentioned that APHIS, Veterinary Services (VS) should soon be publishing the document related to standardized data elements to the Federal Register. Look for an email soon to lead to this document. Two topics which were not completed with this work include standardizing both breed and species codes.

Mr. Picanso reviewed the working group product which was developed in collaboration with federal and state partners. This document called "Principles for Animal Health Information Sharing" was chartered by the Veterinary Services Leadership Team in 2012. This work was undertaken to ensure animal officials have access to information and seamless information sharing capabilities when needed to carry out their responsibilities.

Mr. McGrath presented the latest update for the subcommittee of the committee on Animal Health Surveillance and Information Systems. He indicated that the work of the subcommittee should be completed sometime in January of 2014. The product will be a technical XML schema which can be used by providers of ICVI's and the ability to move information seamlessly between information management systems.

#### **Business Meeting:**

No old business was brought forth.

New business resulted in the following resolution that passed during the business meeting:

Support of the creation and maintenance of a publically-accessible resource that compiles identification, documentation, disease-specific, and other requirements for moving livestock interstate.

Meeting adjourned at 12:00 p.m.