REPORT OF THE COMMITTEE ON LIVESTOCK IDENTIFICATION

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The Committee met on October 28, 2008 at the Sheraton Greensboro Hotel, Greensboro, North Carolina, from 8:00 a.m. to 3:30 p.m. There were 147 members and guests present. Chairman Hillman welcomed Committee members and guests to the meeting and provided opening remarks concerning Committee operation and conduction of Committee business.

Dr. John Clifford, Deputy Administrator, Veterinary Services (VS), Animal and Plant Inspection Service (APHIS), United States Department of Agriculture, Animal and Plant Health Inspection Service, Veterinary Services (USDA-APHIS-VS) and Neil Hammerschmidt, National Animal Identification System (NAIS) Coordinator, VS-APHIS-USDA jointly presented the following report on the National Animal Identification System (NAIS) which was entitled Update on the National Animal Identification System: Budget and Business Plan Implementation.
The focus and objective of the NAIS remains the advancement of traceability for animal diseases. In keeping with this focus, USDA has published the final version of the Business Plan to Advance Animal Disease Traceability, which incorporated the feedback we received from stakeholders on the December 2007 draft. The strategies are designed to increase participation in the NAIS to achieve a critical mass of participation, which is the immediate focus. Also, we see the book end approach providing the most immediate and economical solution to move tracing capability forward. Identifying animals at their premises of origin is of significant merit. The business plan's current emphasis is on cattle, since this sector has the most immediate need for advances in traceability. The cattle breeding populations are designated as the highest priority, due to their longer lifespan and subsequent likelihood to occupy multiple premises throughout their lifetimes. The long-term focus is full traceability and 48-hour traceback capability.

Standardization of data elements for disease programs
USDA is cooperating with States, Tribes, and industry groups to integrate NAIS data standards into existing disease programs and establish interoperability between technology systems. Establishing the NAIS' seven-digit format for premises identification as the standard location identifier in all VS disease programs has been one of the most important actions taken over the past 12 months. A Premises Identification Number (PIN) Working Group made up of several State and Federal animal health officials developed a guidance document, and VS has established policy accordingly: USDA will be using NAIS'

seven-digit PIN format for locations participating in official disease control programs and emergency response activities.

PIN use in disease programs

A PIN will be used for: (1) the administration of disease programs that are regulated through the Code of Federal Regulations (CFR), for an emerging or re-emerging disease, or for a foreign animal disease; (2) VS activities that necessitate the assignment of a location identifier on a record to be submitted to and stored in a VS-maintained information system; and (3) when Federal funds are used to support the administration of the animal disease program.

To the extent possible, premises registrations are to be processed through the system used by the State, either the Standardized Premises Registration System or Compliant Premises Registration System. When necessary, if a PIN is needed immediately in the field, VS systems such as the Emergency Management Response System may generate the PIN. In such cases, the premises data will be communicated electronically with the State system to ensure that those systems have all premises records.

USDA has prepared a communication plan for stakeholders to ensure transparency prior to implementation. Recognizing that some sectors will require specific clarification of the policy, no revision to current practices at markets and slaughter plants will take place at this time.

Integration of automated data capture technology into disease programs

USDA has taken steps to integrate electronic data capture and reporting technologies into existing disease programs, including investing funds to obtain 1.5 million animal identification numbers (AIN) radio frequency eartags and the development of Mobile Information Management (MIM) Systems that incorporate NAIS data standards. By integrating handheld computers/readers to replace paper-based forms, animal health officials are able to electronically record and submit essential data to the Animal Health and Surveillance Management System and other appropriate animal health databases. The electronic collection of data increases volume and quality, minimizes data errors, and speeds data entry into a searchable database.

Several States have been successfully using tuberculosis MIM in TB investigations and disease program work. A brucellosis MIM module has also been developed to accommodate brucellosis testing and vaccination activities. First tested in Wyoming in July of this year, more recently, USDA and State partners also completed a successful test of the brucellosis MIM module in the Greater Yellowstone Area (GYA) in areas of Idaho, Montana, and Wyoming.

Harmonization of animal identification programs

Numerous government and industry programs use animal identification. Animal identification can be used for management purposes, marketing opportunities, and disease control. With the NAIS, USDA is committed to the development of a flexible identification system that meets the primary needs of animal disease traceability but can also be used by the industry for other valuable opportunities. USDA will work with other federal, state, industry, and international partners to ensure the availability of improved identification methods and compatible processes and data standards that can be used for multiple purposes. Breed registry and performance recording programs present a significant opportunity to advance traceability if current identification approaches adopt the 840 AIN, which requires premises to have the standardized PIN. Radio frequency identification (RFID) technology has been utilized in marketing alliances and production management system for several years. The incorporation of the AIN 840 visual and RFID eartags into these programs and management systems will increase tracing capabilities with minimal, if any, additional effort or requirements of the industry. Animal identification in marketing alliances helps document the information necessary for age, source, and process-verified animals.

Agricultural Marketing Service (AMS)

Many USDA-AMS verification programs require animal identification. In early April, AMS released a draft business plan describing how producers can use the NAIS to fulfill AMS marketing programs. Among the strategies, AMS is strongly encouraging NAIS participation to identify animals involved in USDA Process Verified Programs and Quality Systems Assessment Programs, allowing producers to use one animal numbering system and identification method for multiple uses, simplifying recordkeeping and reducing costs. The AMS Program Compliant eartag is a one-time use, tamper-evident tag, which contains a non-repeatable, unique number, and the NAIS-compliant 840 AIN eartags can be used for this purpose.

Producers will also be able to use NAIS-compliant 840 AIN eartags as unique identification to help meet Country-of-Origin Labeling (COOL) requirements. On September 18, USDA published an interim rule to limit the use of AINs with the 840 prefix to U.S.-born animals only. Public comments on the interim rule will be accepted until November 17. The rule also stipulates that imported animals that lose their country of origin identification cannot be retagged with 840 AIN devices, but all other official identification can be used instead.

AIN radio frequency (RF) eartags for use in brucellosis calfhood vaccinates

Official identification, including 840 AIN eartags, other than the Official Calfhood Vaccination (OCV) eartag may be used to meet the requirement for official identification for brucellosis vaccinates. States and industry have requested an orange AIN RF eartag for use in brucellosis calfhood vaccinates. As a result, USDA is establishing an option for an orange eartag, known as the AIN RF-V eartag that will have "OCV" imprinted on the male portion of the tag. States will have the option to have the state abbreviation imprinted on the eartag as well. VS will maintain a list of manufacturers producing these eartags, and States will order directly from those manufacturers.

Expanded use of official metal eartags

To accommodate requests from Sate animal health officials for official metal eartags being available for use outside specific regulatory programs, USDA plans to revise its policy to allow application of silver/bright eartags, which use the National Uniform Ear tagging System numbering format, by producers. Distribution of this official identification will continue to be limited to animal health officials, who will report distribution to the AIN Management System. State veterinarians will determine the availability of this option in their respective states.

Collaboration with industry

Active involvement and support from producer organizations and other key figures in the animal agriculture community are essential to establish a successful NAIS and advance national animal disease traceability. These groups provide a direct link to producers, offering an invaluable resource to communicate clearly about the NAIS. USDA continues to pursue a variety of avenues to strengthen partnerships with industry and solicit direct feedback from producers and other key industry stakeholders as the NAIS is developed.

Brand State Working Group

The brand infrastructure provides valuable traceability information, particularly intrastate. Fifteen brand states inspect nearly 30 million livestock annually. USDA continues to work with the brand States to explore opportunities to benefit both the NAIS and the brand infrastructure. In April 2008, a third party interoperability assessment identified potential issues: 1) uniformity of procedures among all 15 States; 2) timeliness of data retrieval from date of inspection; and 3) few electronic systems exist. Brand and animal health officials continue to develop interoperability/tracing capabilities.

Markets, packers and renderers

Some markets and auction barns are exploring options to become tagging sites to support producers' needs and increase participation in animal identification. Packers and renderers, integral to the bookend system, have cooperated with USDA in an NAIS pilot project.

Animal Identification

Eight approved manufacturers are producing 23 AIN devices for use in the NAIS and animal disease programs (14 RFID eartags, seven visual-only eartags, and two injectable transponders). In addition, two premises identification eartags are available for use in slaughter swine.

Removal of official identification

The CFR includes regulations prohibiting the removal of official identification, however, certain situations warrant the authorized removal of US official identification: 1) malfunction, deterioration, near breakage; 2) infected ear; or 3) inoperable with a management system. The device should only be replaced with official identification and the following information must be reported: 1) date and PIN; 2) type of identification being removed; 3) reason for removal; and 4) official identification number being applied. The information should be submitted to the State Office or the Area Veterinarian in Charge or recorded in the AIN Management System. This policy does not apply to official identification for imported animals.

NAIS budget

Following the Commodity Credit Corporation (CCC) funding in early 2004, the NAIS received $33 million in appropriations annually from fiscal year (FY) 05-07. For FY08, the NAIS received appropriations in the amount of $9.7 million and also had $15 million in carryover funds, which allowed the NAIS to work from a $24 million budget this past year. In FY09, the President's Budget contained a $24 million request, however, at this time, we are operating through a continuing resolution, therefore we are at the FY08 level of $9.6 million.

NAIS is estimated to have $3.2 million in carryover funds. Under the budget plan of $24 million, USDA had anticipated allocating $3.5 million for information technology (IT), $13.5 million for field implementation, and $7.1 million for program administration.

At the conclusion of the presentation by Dr. Clifford and Mr. Hammerschmidt, Committee members raised questions relative to USDA authority in either rules or law to require assignment of a PIN to a premises involved in an animal health program, as is called for in the Business Plan. After discussion of the issue, it was evident that clarification of the issue was needed. Chairman Hillman formed a Subcommittee, Chaired by Dr. Taylor Woods and including Dr. Becky Brewer, Mr. George Teagarden and Dr. Sam Holland to develop a proposed resolution to seek clarification of this issue.

Mr. John Picanso, Chief Information Officer, VS-APHIS provided a report entitled Veterinary Services Software Development – Results and Direction.

The office of the VS Chief Information Officer which Mr. Picanso directs is responsible for developing, deploying, and supporting automated information systems that support the data management requirements of VS' national animal health program activities. Mr. Picanso presented an overview of information technology development projects currently underway.

Mr. Picanso also provided a summary of a report, entitled The VS Information Technology Roadmap which will be completed by December 2008, and provided to VS stakeholders and partners, State Animal Health Officials, and a variety of many other partners and commercial providers. The report highlighted the executive summary, which outlined:

- provide a technical framework of a future architecture.
- define processes and methods that describe how a variety of organizations and information technology resources can either obtain or deliver mission critical electronic data or information to Veterinary Services information systems (both current and planned).
- describe technology alternatives in moving information and technical systems from a current state to a planned future state.

Mr. Picanso indicated that the completed VS IT Roadmap Report should be completed in final form by the end of 2008. Contractor support for this report ends November 17, 2008, and VS will continue towards the finalization and clearance of the report.

One of the sections which Mr. Picanso discussed was the description of suggested initiatives which will be designed to provide VS the ability to support critical IT investments which continue to safeguard animal health and provide stakeholders details of software development highlighting software components under development and their estimated delivery dates.

One highlight of the report will focus on data acquisition, management, storage, exchange and delivery. Data standards and standard terminology will be provided to aid in data exchange with animal health officials, VS stakeholders, and industry information systems. Security with data collection and housing was also discussed.

Software results included the discussion of the Emergency Management Response System (EMRS), the Veterinary Services Process Streamlining (VSPS) system, the Generic Database (GDB) and the Animal Health and Surveillance Management (AHSM) system, and Mobile Information Management (MIM) applications.

Mr. William Sessions, Associate Deputy Administrator, Agriculture Marketing Service-USDA discussed COOL and Animal Identification Related Issues. He noted that there were two authorizing pieces of legislation – the 2002 Farm Bill which enacted mandatory COOL and the 2008 Farm Bill, which amended the COOL law and provided a September 2008 implementation date. He reported that the COOL regulations are contained in 7 CFR Parts 60 and 65. Mr. Sessions reported that covered commodities include products from beef, lamb, chicken, goat and pork. He noted that covered commodities may bear a US origin declaration only if it meets the definition of US country of origin which means that the commodity is from animals born, raised and slaughtered in the US, from animals born and

raised in Alaska or Hawaii, transported through Canada, and slaughtered in the US, or is from animals present in the US on or before July 15, 2008. Mr. Sessions further noted that packers which slaughter animals that are part of a NAIS or other officially recognized system may also rely on the presence of an official ear tag or the presence of any accompanying animal markings, as applicable, to base origin claims. This also includes group/lot identification.

Dr. Hugh Millar, Chief Veterinary Officer, Australia, provided a report on Australia's Livestock Identification and Tracking System.
The National Livestock Identification System (NLIS) is Australia's system for identifying and tracking beef and dairy cattle for food safety, disease control and market access purposes.
All properties are registered with a Property Identification Code (PIC) – an 8 character code that identifies the state, shire (country) and district in which the property is located. Cattle are individually identified with electronic radio frequency identification (RFID) ear tags. Information on their movement from their properties of birth until they are slaughtered is captured throughout the supply chain and recorded in on a national, producer-managed database.
The system is mandatory and is now fully in place across Australia – with over 55,000 transactions/movements recorded daily. Over 99 percent of transactions are processed in the database within 30 minutes, making the data real time and of enormous value for tracing purposes.
Many producers are using NLIS identification for their on-farm management systems.
The presentation demonstrates the NLIS from the point of view of the livestock producer, market operator and abattoir. Also presented are examples of how the NLIS database can be analyzed to provide tracing information, find links between cattle and farms related to cattle movements, and display whole-life histories for individual animals, all at the click of a mouse.
The NLIS protects the reputation of Australia's cattle industry as a supplier of safe and wholesome beef and dairy products.

Dr. Valerie Ragan, AgWorks Solutions, presented a report and provided an update on GlobalVetLink's (GVL) GoPass Equine Passport System.
Based in Ames, Iowa at Iowa State University Research Park, the company started operations in 1999 on a pilot project with the Florida Department of Agriculture. Today, electronic certificates are accepted in all 50 states and 3 US territories. More than 115 million animals have been moved on GVL Certificates.
Why use GVL? Provides access to real-time movement data, national standardization, reduction in paperwork, provides digital clarity – and digital photos. Also provides access to laboratory test results, and includes enhanced security via eSignatures, which has been approved by USDA. GVL sends data and certificates securely to state animal health authorities after laboratories post equine infectious anema (EIA) test results.
Under current paper-based systems…..In most cases, official certificates of veterinary inspection for the movement of horses are valid for 30 days. There is a need to check with each state to confirm requirements for entry. Certificates for movement are paper, copies need to be sent in several directions.
The following is an example of one state's requirements for Certificate of Veterinary Inspection (CVI) document distribution.
Distribution of written CVIs by the accredited veterinarian.
- the original shall be submitted to the office of state veterinarian (OSV) within seven (7) days of the date it is written.
- the second copy shall accompany the animal being moved.
- the third copy shall be sent to the state of destination within seven (7) days of the date it is written.
- the fourth copy is retained by the issuing veterinarian
During the 2007 USAHA Annual Meeting and the 2008 USAHA District meetings the need for an online, standardized equine event movement permit system was identified. There are several paper-based equine passport systems being utilized in the US. In 2003 the Southern Animal Health Association established for its member states a model through a memorandum of understanding (MOU). A slightly different agreement is in place with the South-Central States and Western States. These paper-based systems have not worked very well and they lack standardization. GVL has developed a system which meets the requirements of the three different groups of states. This system is GoPass:

A new on-line equine passport system, it was developed in response to an expressed interest in simplifying the process and getting it moving.

Phases of GoPass include:

Phase I: Western and South Central States Passport
Launched June-July 2008
Phase II: Southern States Passport
August 2008
Phase III: Owner Login
Estimated completion: November 2008

The GoPass Process is as follows:

- the system validates that requirements are met before the passport can be completed;
- EIA test dates fit within guidelines;
- Official CVI is less than 30 days old; and
- meets any other required state criteria.

The Southern Animal Health Association (SAHA) GoPass version allows the veterinarian to electronically sign and submit application to the state veterinarian's office for approval. If approved by state official, it is electronically signed and immediately available to the submitting veterinarian and owner.

The GoPass Advantages include:

- web based equine passport;
- electronic; no more paper copy distribution needed (unless required by state law);
- provides easy access to state import requirements;
- valid for six months;
- more secure, eliminates fraud;
- reminders are sent 14 and 7 days before expiration; and
- standardizes the process of animal inspection, movement approval and data access.

Mr. Bruce Knight, Undersecretary, Marketing and Regulatory Programs, USDA, discussed NAIS Strategies and Directions for Achievement of the Long Term Goals for Animal Disease Traceability.

Mr. Knight reported that he left the USAHA meeting to participate in an RFD-TV call in program on Monday evening with members of the cattle industry. He reported that he is incredibly pleased with the progress of the national animal identification system. Mr. Knight noted that he had recently attended a meeting of the National Association of State Departments of Agriculture (NASDA) where he invited state agriculture commissioners to tape public service announcements (PSAs) in support of premises registration and animal identification. He noted that so far 14 or 15 Commissioners had taped PSAs but only 6 State Veterinarians had taped PSAs. He challenges the State Veterinarians to out perform the commissioners.

Mr. Knight said that there is a synergy between COOL and animal identification and noted that at the outset of the program, we must use affidavits for animal movements but believes that the safe harbour provided by 840 tags will increase their use in COOL.

Mr. Knight noted that we are one-third of the way there (39 percent) in registration of premises with over 450,000 premises registered – over 50,000 registered this year. He explained that the Business Plan lays out the work ahead for APHIS and state animal health agencies as well as producers in order to achieve full implementation of the plan. He noted that 13 states have registered over 50 percent of their premises, and that we have a larger base than Canada or Australia and will be the envy of the world in a few years.

He said that in the Business Plan we made the decision to bring the components together and connect directly to disease programs and laid our the process in the September VS Memo.

Mr. Knight reiterated that we now have several hundred thousand cattle identified with RFID tags and that we are using the components of the animal identification system in the tuberculosis testing of many of these animals. All of this is being accomplished with an error rate significantly lower that the 10 percent error rate found with paper based systems, and noted that by the end of 2008, 6-10 million animals will be identified utilizing 840 numbers.

He said that currently there are 24 tags approved for NAIS, with 15 being RFID tags.

Mr. Knight provided a word of caution and an exhortation. He noted that the anticipated budget shortfall is the biggest challenge, as we are operating under a continuing resolution, until March 6, at

which time Congress is expected to act on a new budget. He said the agency has $4.2 million to take us thru March 6. We are working with cooperative agreements and carry-over funds to make it work.

He urged individuals to work with congressional members and educate them on how important animal identification and traceability is to disease control, eradication programs, and to response to foreign animal diseases

Mr. Knight believes that, as a nation we are capable of 48 hr. traceability on poultry and are nearing this goal with swine and sheep. He said the remaining challenge is dairy and beef cattle, noting that we need to meet the 70 percent registration goal for cattle by end of next year. It will take work from vendors and states to sign up remaining premises. Direct mail to over 250,000 producers helps educate producers, and identify those willing to participate.

He said "I have worked with two Secretaries, now many of you and have a world of respect for your efforts. There will be a new person in the Secretary's position and in my job and I ask you to hold them accountable. Make ID come alive for them as it is not an academic exercise, rather it is about the core functions of your careers, to maintaining the viability of our livestock producers' livelihood."

Mr. Knight concluded by noting that we have a state of the art system that is ready, and a robust database with one third of the premises already registered. We have a state of the art system of on ear tags and RFID that is operable. Many states are moving ahead and we know it will be a national system. These challenges are formable but not impossible. As we go thru tight budgetary concerns, don't loose your commitment and ambition.

Dr. Robert Fourdraine, Wisconsin Livestock Identification Consortium, discussed the Benefits of Integrating AIN RFID into Existing Industry Programs.

Many industry programs requiring some form of individual animal ID, which may include:
- on-farm management programs;
- breed registries;
- milk recording systems;
- AI companies; and
- marketing programs.
   Existing ID Devices include:
- RFID
    o manufacturer coded RFID
    o transponders
- Visible ID
    o American ID
    o uniform series ear tag number
    o management number

Key Drivers for RFID are:
- RFID Transponders;
- cost savings of $40 -> $2;
- ease of application; and
- wider acceptance.

Visible ID and RFID advantages include:
- automate data collection;
- unique identifier beyond the farm;
- cost/labor savings; and
- data accuracy.

The ID must show benefit to producers. What do we need to address? We must show practical application and not a research project. Additionally, herd size issues must be addressed. One size does not fit all. Herds must be able to integrate with existing programs, and the industry must educate youth and those doing the work of how the technology performs.

The biggest opportunities and benefit areas are outlined as follows:
   Dairy Industry
- over 50 percent uniquely identified
- animals are managed every day
- good record keeping a must

- many programs can link to a unique ID
  Local shows
- meat animals need an ID for the show
- good record keeping a must
- work with volunteers, and educate youth
  Dairy producer benefits:
- On-Farm Integration
    o herd health checks
    o milking parlor
    o sort gates
- Use in animal health programs
    o disease testing
    o calfhood vaccination
- Allied industry integration
    o breed registries
    o DHIA milk recording
    o AI genetic programs
- Apply an AIN (a.k.a "840") ID Device and meet Country of Origin Labeling requirements?
  Livestock show benefits:
- Provide a unique ID
    o tamper evident
    o works with existing procedures
- Applied at weigh in
- Read at the show
    o reduce risk of injuries
- Data collection automation
    o handheld vss keying in data afterwards
    o reduce time and effort
    o integrate with scale
- Educational opportunity
    o explain animal health
    o technology
    o good record keeping
- Apply an AIN (a.k.a "840") ID device and meet country of origin labeling requirements.

Dr. Kent Fowler, Chief, Animal Health Branch, California Department of Food and Agriculture (CDFA) provided a report entitled The Implementation of Electronic ID-A Field Report -California Tuberculosis (TB) Task Force Report on the field integration of electronic identification, handheld device data capture and data utilization in the tuberculosis testing efforts conducted by the Tuberculosis task force.

History

The California TB Taskforce started in December 2007 and is ongoing. As of October 22, 2008, the taskforce has tested 250,000 cattle from 190 herds. There are 3 affected dairies in the Fresno County area. Two of the herds are depopulated.

Objectives of the Taskforce

The California TB Taskforce will supply cattle herds involved with the TB testing with USDA approved RFID ear tag technology (840 tags) for herd testing. Using this approach, USDA and CDFA plan to enhance TB testing activities, advance the National Animal ID System (NAIS), accelerate the use of RFID technology for regulatory testing of livestock, provide producers with long term management and marketing opportunities, and facilitate future animal health testing.

Identification Coordination Team

The TB taskforce established an ID Coordination Team to facilitate the inventory, distribution, and application of RFID tags in test eligible herds, as well as distribute outreach about NAIS. The team has 6 members and it is part of the Fresno Incident Command Post.

<u>Communications and Producer Interaction</u>

A high level of communication with the dairy industry is needed to facilitate the use of RFID technology and the application of the tags by dairy producers prior to the TB test. The assigned herd testing veterinarian is the initial point of communication with the herd for identification (ID) technology. In collaboration with the Herd Test Coordinator and the Operations Section, the ID team schedules tag application and herd inventories.

The ID team supplies each dairy herd with basic instructional materials for proper placement of the RFID tag, tag application, and the NAIS. Some dairy producers already apply RFID technology for herd management. In certain situations, the producer's data can be imported for the purposes of the test. These opportunities are evaluated on a case by case basis.

<u>Distribution and Application Options</u>

The California TB Taskforce staff and ID team strongly encourage livestock producers to apply the RFID tags prior to the test because of limited taskforce personnel resources. The dairy receives RFID tags for all test eligible animals several weeks in advance of the TB test. The taskforce supplies approved 840 official RFID tags for the primary benefit of the TB test. Many producers also recognize the secondary management and marketing benefits. There are three options for application of the tags for the TB test including: 1.) producer applies all the tags prior to the test and ID team inventories the herd, 2.) the ID team tags and inventories the herd prior to test day and 3.) tag application and all testing activities are completed during the injection phase of the TB test.

The current tag distribution data reports a total of 349,900 tags supplied to 201 dairies. The ratio of dairy farms requesting full-duplex tags (FDX) to half-duplex (HDX) tags is 3:1. This distribution of either FDX or HDX technology is dependent on the producer's goals for application of the technology and available supplies.

Producers plan to use the RFID tags for different reasons. Some producers will only use it for the TB test and nothing else. There are other producers with existing RFID systems or aspirations to use the electronic ID technology to improve their daily management. A portion of producers with no plans to use the technology are motivated to apply it after receiving tags for the TB test. Two producers refused the RFID technology.

<u>Application of RFID ear tags</u>

The proper placement of the RFID ear tags is in the left ear between the two ribs of cartilage near the center portion of the ear approximately 1/4th of the way from the base of the ear. It is also important that the tags be disinfected with an approved disinfectant (e.g., Nolvasan, Chlorhexidine) to minimize infection and insure tag retention. The actual application can be done by one person, but a team of two people is ideal in larger operations (i.e., 2,000 head or greater). The team has one person applying tags while the other person loads tag applicators and applies disinfectant to the tag.

<u>Challenges and Successes</u>

The effective implementation of RFID technology for an event like the TB taskforce requires some key elements including: good communication and coordination with distribution of supplies and the testing schedule, excellent communication with the producer, staffs that are comfortable talking about the RFID technology and its benefits for both the testing and management applications, and monitoring of accurate tag distribution to producer participants.

The overall TB test presents some interesting challenges with reading official ID and the opportunity to leverage RFID technology. Many forms of official visual ID can be hard to read due to tags with mud and dirt on them, worn off numbers or letters on metal tags, and lost ear tags. Some facilities can present safety issues for both the animals and people. If bulls or a high proportion of loose cows are an issue, the test time is often extended and more personnel are needed to complete the test. The printing of the 840 number on both sides of the tag creates several challenges including accuracy issues with matching tag parts and time delays with removal of tags from packaging.

<u>Data Recording</u>

The California TB Task Force uses RFID technology in combination with a handheld computers (PDAs) and the USDA Mobile Information Management (MIM) (TB testing module)

9

software to inventory the herd, to document all forms of ID (RFID, brucellosis, silverbrite, herd tag, etc.) on the animal, and to record required herd test information.

Data recording teams consist of two people with one person using the handheld computer while the other reads the tag with the RFID reader. It is important to have enough data recording teams relative to the number of injectors to maintain a steady work flow. In some barn situations, additional personnel are critical to sorting and restraining animals for the test. Producers are consistently concerned about impact of restraint times on the well being of the cows and milk production.

The features of the handheld PDAs are also an important consideration for implementation of RFID technology and electronic data capture. The PDAs ideally should be semi-ruggedized, fully ruggedized equipment, or fitted with features that protect the hardware from the environmental elements. The ergonomics of the device (weight, balance, etc.) are an important feature because of long term use each day with little down time. Other considerations include screen illumination for outside use, battery life span, and keyboard size. User preferences are variable and it is difficult to completely satisfy specific preferences of all users; however, a highly reliable and robust hardware system is critical.

The taskforce uses multiple brands of PDA technology and RFID reader technology. The preference for type or brand varies across users. The taskforce continues to evaluate the different technology platforms and the needs for future testing applications.

Database Systems

The early stages of the TB taskforce revealed some difficulties with data management. The taskforce staff entered data into multiple unconnected databases with different software platforms. The processes were paper intensive with duplicate data entry. Management staff worked with technical staff members to centralize data management. The current taskforce maintains all data, documents, and daily information in the Emergency Management Response System (EMRS). The individual animal test data are electronically entered into the California Tuberculosis Database (TBDB). At the early stages of the taskforce, it is important to establish a vision for robust data management and document tracking systems.

Conclusions

The experiences of TB Taskforce emphasizes the following points: 1.) good technical support is critical, 2.) the USDA MIMS team is very supportive of TB testing efforts, but the team is understaffed, 3.) communication and coordination are critical for all segments of incident command system (ICS) with respect to testing and application of RFID, 4.) opportunities exist to effectively advance the application of the NAIS for disease surveillance and testing programs, 5.) the California dairy industry is receptive of RFID technology and 6.) the current TB event provides an opportunity to collect surveillance data on slaughter cattle.

Dr. Steve Eicker, Valley Ag Software, discussed his company's experiences with voluntary utilization of RFID on US dairy farms in a presentation entitled Field Experience with RFIDs on US Dairy Farms.

Introduction

Large scale adoption of RFID technology has occurred in the last five years on large US dairy farms. The technologies that accelerated this were:
- battery-powered, blue-tooth readers
- sufficiently powerful hand-held PCs.
- availability of software platforms.

According to recent USDA estimates, Dairy Comp 305 (Valley Ag Software) has over 60 percent market share of the cows on farms using computerized management systems, and likely a far greater proportion in larger herds and large heifer ranches. Large herd sizes dilute the cost of both hardware and software. In addition, these herds are more likely to have lockups and hired labor.

On-farm Use

The case for adoption of this technology is compelling. There are a number of chores that are greatly facilitated by this, such as reproductive injections, exams, and inseminations; inventory management; bovine somatotropin (bST) and vaccine injections, lameness rechecks, dry cow separation, etc. Nearly any task that involves finding a subset of cows in a group is substantially faster. In some dairies, we have measured over a 50 percent decrease in the time to do certain chores.

In addition, there is accountability. There is a timed-stamped record that the employee actually was near the cow, and the time interval is an indication that the task was completed. The indirect benefits

maybe even greater: Cows are locked-up less time, so there is more time to lie down; the compliance means the correct injections are administered to the correct cows.

Most dairy tasks occur at the rear of the cow: inseminations, palpations, milking, Dairy Herd Improvement Association (DHIA) testing, udder treatments, TB tests, etc. Even if the ear tags read correctly, it takes an extra person, and the opportunity for mismatches in a parlor is unacceptable. The recent availability of rear-legs bands may resolve most of these issues.

Large heifer ranches have also adopted these tags. Often, a heifer raiser has calves from a number of sources, and the traditional ear tags numbers are duplicated. A unique electronic identifier resolves much of this. Cattle move is greatly facilitated, as is weighing, inventory, treatments and pregnancy examinations.

Animal Movement Tracking

As farms increase in efficiency, they can afford specialization for certain tasks. There has been a dramatic increase in very large heifer ranches, commonly in a different state. With electronic record transfer, data entry for new arrivals is minimized. Calves are scanned as they leave the source farm, and scanned as they arrive on the calf ranch. As activities occur, the data at the source farms are updated.

Although these electronic data move easily between dairy farms and heifer ranches, the health papers still tend to be on paper. There would appear to be great value if governments would accept electronic animal movement and health data.

Laboratory Data Submission

Collecting identified samples from cows has been a monthly task for DHIA organizations for years. We have expanded this concept to health samples, such as mastitis cultures or blood samples. Accurately identifying the cow, and the sample, and have electronic sample accession is crucial with DHIA, but seems nearly prohibited by many animal health laboratories. The technicians in the laboratory should not be wasting time guessing at the ID on a sample, or on a smudged paper, as they are far from the source of verification. There would appear to be great value if diagnostic laboratories would accept electronic sample submission data.

Data Distribution

The wide availability of the web has been ideal for the rapid dissemination of data so the dairy farmers can make better decisions. We have access to such data as Dairy Herd Improvement (DHI) milk and components, milk cultures, soil samples, DNA analysis, sire mating suggestions, farmer reported diseases, etc. All these data arrive electronically, automatically, without the need to logon or query a web site. There would appear to be great value if diagnostic laboratories could make other health data available for automated transfer.

Animal Identification Accuracy

In our in-house tests and field experience, the read range of HDX has been superior to several brands of FDX tags with hand scanners. This has a direct effect on the speed that a group of cows can be searched. It has an even greater impact on the ability of stationary scanners. Unfortunately, the recent TB project released a number of HDX tags that will compromise the function of a dairy farm.

At one time, there was discussion about having minimum standards for identifying animals. But this fell victim to some unknown political issue, and all standards were eliminated. The USDA even allows visual tags, which have no read accuracy worth discussing. There would appear to be value if it was prohibited to have a 15-digit number printed anywhere.

Adoption of 840 Series Tags

At one time, we were encouraging our clients to use 840 sequence numbers instead of manufacturers' codes. This was in part due to significant subsidies from certain states and other organizations. And at one time there was the fear that USDA would not recognize the non-840 tags. However, there are some compelling reasons against a farm using these tags. They cost more; there are additional tracking requirements; it was recently announced it was illegal to remove a tag, and finally, it is now illegal to tag a cow that is later determined to originate from Canada.

What should a dairy do that purchased a group of cows only later to find that someone had inserted inferior, low quality tags? These tags need to be replaced, or the cows need to be sold. A similar issue occurs if a cow is imported from Canada with the tag in the wrong ear. Another example is a farmer that installed inferior tags in their heifers, only to discover two years later that all the tags need to be replaced. In each case, the value of an animal tagged with a traceable tag will decrease as these animals are marketed.

Recently, the USDA has taken steps to allow replacement of 840 tags for management purposes. This is a welcome step, but it would appear we need to continue to seek incentives for farmers to use 840 tags, as the current scale is still tipped again them.

Summary

The dairy industry has made huge strides in adopting this technology for market reasons, with little financial assistance from regulatory bodies. The herds that are using these represent a significant proportion of dairy animals that are moved between herds and across state lines.

Recommendations recap:
1. Encourage the use of rear-leg dairy cattle identification.
2. Governmental agencies should accept electronic health and movement data.
3. Diagnostic laboratories should accept electronic data submission.
4. Diagnostic laboratories should provide electronic distribution of health data.
5. Government agencies should distribute only HDX 840 tags to the dairy industry.
6. Printing a 15-digit number on a tag or paper should be prohibited.
7. A clear statement should be made that allows replacement of 840 tags for management needs.
8. Additional incentives are needed to encourage the use of 840 tags if that is still a goal.

At the conclusion of this presentation a number of questions and comments challenged the assertions related to utilization of HDX versus FDX tags. The presenter noted that the apparent superior read rates may have been related to readers specifically tuned to the tag frequency and that many FDX tags would function very well. A commenter noted that currently available FDX tags were very comparable to HDX and some may have equivalent or better readability.

Committee Business:

Old Business:

Committee Purpose and Goal: Chairman Hillman led a review of the Committee purpose and goal. After the review the Committee determined that the current purpose and goal continue to be appropriate for the Committee.

Review of 2007 Resolutions: Chairman Hillman reviewed the five Committee Resolutions from 2007. Agency responses to the resolutions indicated that actions were being taken to implement recommendations from all of the resolutions. While actions were not complete on some of them, there was sufficient work to consider the purposes for the resolutions fulfilled.

New Business:

The PIN Subcommittee Chair, Dr. Taylor Woods presented the proposed Resolution developed by the Subcommittee to seek clarification of USDA authority to require a PIN for animal health programs. After discussion and clarification the proposed Resolution entitled Clarification of Authority for NAIS PIN use in Program Diseases and Emergency Programs was unanimously approved.

Chairman Hillman recognized Vice Chairman Maher to address Committee members and commend them for their participation and support for Committee efforts over the past five years.

Chairman Hillman thanked the members of the Committee for their efforts and support in furthering animal identification efforts during his tenure as Committee Chair and informed members that his five years as Chair would conclude with adjournment of the meeting.