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The National Animal Identification System – ID –It’s gonna be BIG!

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The need for the National Animal Identification System is apparent. Not only do we need to identify animals, but we need to track their movements in case of an animal health emergency. The old National Uniform Series Eartag requirements have gone away and the old steel tags would make reading tags and tracking animals a slow, error-prone, and tedious nightmare.

Foot and Mouth Disease (FMD) was confirmed in Essex in Great Britain on 20 February, 2001. By the time the disease had been eradicated in September 2001, more than 6 million animals had been slaughtered. We’ve all seen the horrid pictures of piles of burning carcasses. FMD is endemic in most countries in the Middle East, South Asia, Central Africa and the Northern Countries of South America.

As of December 2001, the disease BSE has been confirmed in native-born cattle in Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Liechtenstien, Luxembourg, the Netherlands, Portugal, Slovakia, Slovenia, Spain, and Switzerland.

Anyone who wonders about the vulnerability of the United States need only look at the table below. Great Britain has concluded that FMD was brought into the islands by animal products and their greatest concern about a recurrence revolves around smuggled animal products.

Interceptions of Prohibited Animal Products

USDA APHIS for FY 2000

- **JFK - 55,900**
- Miami Int’l – 22,449
- SF – 18,944
- LAX – 18,156
- Chicago – 12,690
- San Juan – 9,737
- Washington Dulles – 8,349
- Dallas FT Worth – 6,185
- Detroit - 5,823
- Atlanta – 4,739

Maintaining the health of the U.S. herd is the most urgent issue; therefore, it is the most significant focus of the National Identification System. NAIS is being designed to enable a traceback and trace forward in case of an occurrence of FMD, BSE, Exotic Newcastle’s Disease or similar threat to the herd or flock.

You will recall the BSE cow that appeared in Washington and was tracked back to Canada. The calf of that cow was never able to be tracked because of the lack of a tracking system in the U.S.

Several hundred calves had to be destroyed because of our inability to track. APHIS Animal Health officials report that even though there is often very good identification and tracking on animals imported into the United States, these animals disappear in this country due to the lack of an ID and tracking system. There are tracebacks of domestic and imported animals that the agency has not been able to complete due to our lack of system.

The Idaho State Veterinarian, Dr. Clarence Siroky has reported that in the event of an outbreak today, using a very limited paper system and having to make farm visits and rely on the recollections of producers and markets, it could take up to 6 weeks to trace back and trace forward potential infected animals or carriers. During that time, it might be necessary to shut down commerce, as was done in Great Britain and Italy during their FMD outbreaks. No animals or milk would move, no outsiders would be allowed on farm except for emergency essential services, and service vehicles and personnel would have to go through sanitations stations before and after their farm visits.

There are an abundance of benefits to be derived from an ID system, in tracking and preventing other diseases than the Foreign Animal Diseases that catch the headlines and our attention. There are also significant benefits in on farm and food chain management that flow naturally from good ID. These benefits are not the primary purpose of NAIS, but may drive faster implementation. Wouldn't it be smooth if the market drove the change instead of a government mandate? Source Verification is already affecting the marketplace, as McDonalds and Walmart have established goals for 100% source verified beef and have backed that goal with money at the slaughterhouse and projects in the field. Country of Origin Labeling and Age Verification (current requirement by the Japanese for American Beef to re-enter their market) could also become reality because NAIS will require the ID be in place that could readily enable them.

NAIS was developed by a 100 person team put together by the National Institute for Animal Agriculture at the request of USDA. The committee included representatives of many species (beef, dairy, bison, swine, poultry, cervids, sheep, and goats. Industry, producers, state, federal, and practicing vets, database providers, tag manufacturers, and livestock markets and slaughter plants had representation. The goal is to put together a system that provides the vital traceback feature, and is not onerous on any aspect of industry, including producers.

Current status of NAIS is that it has been adopted by USDA and endorsed by many groups including the U.S. Animal Health Association, National Institute for Animal Agriculture, National Dairy Herd Improvement Association, National Milk Producers Federation, National Cattlemen's Beef Association, and many more.

USDA provided grants totaling \$18 million dollars (2004-2005) to state animal health authorities whose projects were approved. Most of that money was earmarked for the establishment of the premise ID system. Another \$33 million is in the president's proposed budget. \$18 million of that is earmarked for states that did not get funded in the first round, provided they present new plans, and for new projects that have address issues being discussed in the Species Work Groups.

Premises Identification

The overall system must allow for the identification of each premises — or location — where animals are born, managed, marketed, or exhibited. It must also allow for the recording of animal identification and animal movement data. The NAIS must associate or link animal identification data to each premises where the animal or group was located and the specific dates the animal or animals were at the location.

The first step in implementing the NAIS is registering each premises in the United States and assigning that location its own unique identification number. As each State may have its own requirements, it is important that producers register their premises in the State where that premises is located. To ensure animal health officials at the national level have the necessary contact information in case of a disease concern, States will forward certain information to a national premises information repository maintained by USDA. National animal health officials will be able to access this very basic information quickly during a disease outbreak, helping them coordinate their response with the States that are affected.

The National Premises System

The national premises system includes the premises number allocator, premises registration systems, and a national premises information repository. These are all necessary components of the overall NAIS.

The **premises number allocator** is maintained at the national level, and it interfaces with premises registration systems maintained at the State level. Through the allocator, USDA can assign a unique premises identification number to each location where animals may commingle (e.g., a ranch, farm, grazing area, livestock market, slaughter establishment, or veterinary clinic). A single premises number will be used for each location, regardless of the number of species associated with it. In other words, a producer will not have a different premises identification number for beef, dairy, swine, etc. if all of these animals are located at the same operation.

A **premises registration system** is a database program. It allows necessary information about the premises to be collected and unique identification numbers to be assigned. In the event of an animal health investigation, the information collected through the premises registration system would allow animal health officials to get in touch with the appropriate contact person quickly.

States and Tribes are responsible for handling premises registration. Through premises registration systems, they collect information such as the premises street address, name, and telephone number of the person authorities should contact during a disease traceback involving the premises, and the type of operation (market, farm, etc.). In addition, the date that information about the premises was initiated and the date it was deactivated are kept so the appropriate people (with knowledge of animals on the premises during the time in question) can be located. Data will be maintained for 20 years. The information collected through these systems will be vital to stopping future disease outbreaks and completing existing eradication programs.

USDA's Animal and Plant Health Inspection Service (APHIS) is providing a *standardized premises registration system* that States and Tribes may elect to use. It is a Web-based system maintained at an APHIS facility in Fort Collins, Colo. Some States and Tribes may opt instead to

use a system that they developed or that a third party developed. State and Tribal authorities will determine which premises registration systems will be used in their areas. As long as a system has been evaluated by USDA and found to be compliant with the national data standards and with other technical requirements (e.g., communication integrity and system security), it may be used. The Minnesota Board of Animal Health has developed their own system and it has been approved by USDA.

Certain pieces of data entered into the premises registration system will be forwarded electronically to a **National Premises Information Repository**. The information repository centralizes agreed-upon data and is necessary to support the overall NAIS.

The table below shows the 12 pieces of information that will be stored in the national premises system:

National Premises Information Repository—Data Elements
Premises ID Number
Name of Entity
Owner or Appropriate Contact Person*
Street Address
City
State
Zip/Postal Code
Contact Phone Number
Operation Type (e.g., production unit, exhibition, abattoir, etc.)
Date Activiated
Date Retired (e.g., date operation sold or no longer maintaining livestock)
Reason Retired

*The contact person should be the person the animal health official is to communicate with, when performing a traceback (as determined by the entity).

As USDA and its partners move forward with the NAIS, they will also be working to obtain information about specific animals or groups of animals that have been assigned official identification numbers. Only information necessary for animal health officials to be able to track suspect animals and identify any other animals that may have been exposed to the disease will be maintained.

The U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) is amending the regulations to recognize for official use the 15-character animal identification number (AIN), 13-character group/lot identification number, and 7-character premises identification number. Industry groups have the option of using the same animal identification numbers for programs they sponsor, such as for performance recording or breed registration. DHIA will use the 15 character AIN number for data flowing to the USDA Genetic Evaluation Program.

Currently, many producers use separate identification numbers or methods for official animal health programs, interstate commerce purposes, and industry-sponsored programs. One cow, for example, could have as many as five different identification numbers, each associated with a different program (e.g., disease eradication program, herd improvement program, etc).

Various industry organizations have recommended, and USDA supports, moving towards a standardized numbering system that would allow one number to be used for all of these purposes. An animal would be identified with the same official number under multiple programs, instead of being identified with a different number under each program. The data associated with each program could still be maintained separately, however.

The new individual animal numbering system will allow producers to transition into the use of a "one number-one animal" system if they wish to do so. This numbering system will also be a key element in the national animal identification system (NAIS). Animal health officials will be able to trace animals more effectively during a disease response if all animals are identified in a uniform manner.

According to John Clifford, Deputy Administrator, USDA APHIS Veterinary Services, animals with the official RFID eartag will not be tagged with any other tag for any regulatory or animal health purpose.

Only information necessary for animal health officials to be able to track suspect animals and identify any other animals that may have been exposed to a disease will be maintained in NAIS data repositories. Officials will not have access to proprietary production data collected by industry organizations.

AIN Format

The format for the AIN is 15 numeric characters, the first three reflecting the internationally recognized country code for the United States (840). The last 12 digits are a randomly assigned, unique number sequence.

Example: 840123456789012.

The AIN is sometimes referred to as the "840" number. USDA anticipates that the "840" number will be implemented in mid-2005. At that time, producers should be able to obtain batches of "840" numbers from AIN distributors to identify their animals. Minnesota DHIA is a distributor of AIN tags.

NAIS Numbering Transition Period: Acceptable Alternatives to "840" AIN

There are certain identification codes already available in the marketplace that are very similar to the AIN "840" configuration. These codes are now considered official if they have been imprinted on devices that meet USDA's official ID tag requirements (as defined in the Code of Federal Regulations).

Acceptable variants of the "840" number include the following:

- A 15-digit sequence that begins with a 3-digit manufacturer code. Manufacturer codes are assigned by the International Committee for Animal Recording, and they currently range

from 935 to 985. For example, the Destron manufacturer code is 985. The last 12 digits are a randomly assigned, unique number sequence.

Example: 985123456789012

- A 15-character alphanumeric sequence that begins with "USA." The last 12 digits are a randomly assigned, unique number sequence.

Example: USA123456789012

*** It is important to note that other animal and premises numbering systems are already recognized by the regulations, such as the National Uniform Eartagging System. These systems will still be recognized by APHIS for purposes of official identification and will be incorporated into the NAIS during the transition period.***

The goal of the National Animal Identification System (NAIS) is to be able to identify all animals and premises that have had contact with a foreign or domestic animal disease of concern within 48 hours after discovery. As an information system that provides for rapid tracing of infected and exposed animals during an outbreak situation, the NAIS will help limit the scope of such outbreaks and ensure that they are contained and eradicated as quickly as possible.

Partnerships among all stakeholders are the foundation for achieving this tremendously important and extremely challenging goal.

The NAIS will be established over time through the integration of these key components:

Premises Identification

To track animals, we must know where they are born and where they are moved. Therefore, identifying locations that manage or hold animals—referred to as premises—is the starting point of the NAIS. Each premises will be identified with a unique seven character identifier, or a premises identification number.

Animal Identification

To track animals as they move from premises to premises, we must also have a standard way to identify them. Animals will be identified either individually with a unique animal identification number (AIN) or, if they are managed and moved through the production chain as a group, with a Group/Lot Identification Number (Group/Lot ID).

Animal Tracking

As animals move from one premises to another, a few basic pieces of information will be reported to the national animal records repository: the AIN or Group/Lot ID, the premises number of the receiving location, and the date of the animal's or animals' arrival. Our ability to achieve the 48-hour traceback objective will be directly affected by the percentage of animal movements that we are able to record. Collecting animal movement information is possibly the most challenging component of the NAIS.

NAIS Guiding Principles

Uniformity

The NAIS will be based on national data standards to ensure that a uniform and compatible system evolves throughout the United States. The program will support the needs of official identification including animal disease programs and interstate commerce.

Flexibility

The NAIS must allow producers to use NAIS in coordination with production management systems, marketing incentives, etc., allowing for the transition to a “one number –one animal” system for disease control programs and other industry-administered programs. While animals must be identified prior to being moved from their current premises, producers can decide whether to identify their stock at birth or during other management practices.

The integration of animal identification technology standards (electronic identification, retinal scan, DNA, etc.) will be determined by industry to ensure the most practical options are implemented and that new ones can easily be incorporated into the NAIS.

Inclusiveness

The NAIS is being developed to identify animals and poultry and record their movements over the course of their lifespans. The ultimate goal is to create an effective, uniform national animal tracking system that will help maintain the health of U.S. herds and flocks. Currently, working groups are developing plans for camelids (llamas and alpacas), cattle and bison, cervids (deer and elk), equine, goats, poultry, sheep, and swine. Minnesota DHIA has a representative on the Bovine Work Group.

The NAIS is voluntary so producers and other stakeholders can participate in the design, development, and testing of the system to ensure practical solutions evolve. To achieve the goal of 48-hour tracebacks, all producers and affected industry segments must eventually participate. [If the market does not provide incentives for participation in the NAIS, it may be necessary to establish requirements for identifying premises and animals and for reporting animal movements. These requirements would ensure essential data are available for animal health officials to carry out timely tracebacks.]

Cooperation

The NAIS is a joint effort. Successful achievement of the 48-hour traceback goal will occur through State, Federal, and industry partnerships. While animal health authorities have significant responsibilities, it is important to ensure that this effort does not unduly increase the size and scope of Federal or State governments.

Both public and private funding will be required for the NAIS to become fully operational. The Federal government is providing the standards and the national databases and basic infrastructure. States and Tribes will register premises within their areas. They will also support the administration of animal identification and tracking systems that will feed information into the national databases. Producers will identify their animals and provide necessary records to the databases. Marketers and processing plants will provide animal location records. Service providers and third parties will assist through their animal identification and management

programs by providing animal identification and movement records to the NAIS on behalf of their producer clients. Labor from all groups will be needed.

Confidentiality

The NAIS will contain only information necessary for animal health officials to be able to track suspect animals and identify any other animals that may have been exposed to a disease. To ensure that officials have immediate, reliable, and uninterrupted access to this information in the event of a disease concern, certain basic data must be readily available to the Federal government.

Animal identification and tracking systems maintained by the states or regional alliances will be an integral part of the overall NAIS information infrastructure. The State and regional systems will be able to collect and maintain more information than is required for the NAIS, yet only the required data need to be available for the national animal records repository.

To help assure participants that the information will be used only for animal health purposes, the information must be confidential. USDA and its State partners will work to protect data confidentiality.

USDA attorneys have been working on confidentiality for a couple of years. Congressman Collin Peterson of Minnesota has introduced a bill which includes language exempting NAIS data from the Freedom of Information Act. In the Minnesota Legislature, bills have passed committees in both the Senate and the House protecting the NAIS data stored by the Board of Animal Health.

Minnesota

The Minnesota Board of Animal Health has sent Premise Registration cards out to about 35,000 producers that existed in their database. Over 10,000 of those farms have applied for their Premise ID. Plans are for another mailing once the BAH has caught up on processing the cards already received. You can apply for a premise on-line at www.bah.state.mn.us. The Board plans to send out a credit card style card with the premise ID and name, and barcoding. Projects are underway with both beef and swine, and a special dairy project is in development.

Minnesota DHIA

DHIA is celebrating our 100th anniversary in the U.S. in 2005. We have been in Minnesota for 95 years. That is how long we have been identifying cows and tracking events. We have successfully exchanged data between our computers and USDA computers for nearly half a century for the genetic evaluation program. We have been issuing and tracking official USDA tags for over 50 years as well. This history combines with our field presence in nearly every county to position us well to facilitate tag purchases and to report events that NAIS needs for implementation. Minnesota DHIA has been an active participant in the development of NAIS nationally, in the Bovine Work Group for NAIS, and in the Minnesota Committee working with the Department of Agriculture and the Board of Animal Health.

Timelines

- July of 2005 is the expected date when USDA will start issuing the 840 series tags to tag manufacturers
- July of 2005 is when USDA expects to have its individual animal tracking system in place.
- July of 2005 is when USDA expects all states to be able to assign Premise Ids using the allocator at Ft. Collins CO.
- USDA Undersecretary William Hawkes has announced that USDA expects the NAIS system to be up and fully operational no later than January 1, 2009. That means that many of the heifer calves born this month may have an RFID tag in their ears during their lifetime. We expect that for many of those calves, this will be the year they get their RFID tag.

RFID

The Bovine Work Group selected Radio Frequency Identification (RFID) button eartags as the system for Bovines. RFID tags are used around the world in millions of bovines, and that technology has been selected by Canada (implemented on many species on 1/1/2005 after dairy implementation in 2004), the European Union, several Australian states, and Brazil. Two Mexican states are participating in a joint implementation project with Colorado, New Mexico, Arizona, and the Navajo Nation.

RFID was selected for the following reasons:

- Tag retention rates are very high.
- Speed of Commerce is another primary factor in the selection of RFID. The ID system cannot slow the flow of animals through high volume markets and slaughter houses.
- Many companies are developing or have already developed a host of uses for RFID in management schemes and software packages.

Conclusion

NAIS can be a very good thing for most producers, for industry, and ultimately for the consumers in the U.S. and for export. Some have said the system needs to cause as little change in animal agriculture practices as possible. It seems to me that the opposite may be true. For animal agriculture, this is an opportunity to dramatically improve the quality, safety, and value of the products we produce. Some times you need a great leap to cross a chasm that is too wide to cross with small steps.