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## ANIMAL IDENTIFICATION AND TRACEABILITY: PROTECTING THE NATIONAL HERD

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Veterinary Services, a program of the U.S. Department of Agriculture's Animal and Plant Health Inspection Service, is committed to preventing, controlling, and/or eliminating animal diseases and monitoring and promoting the animal health and productivity of animals from one State to another. Prevention includes not only activities related to the exclusion of foreign animal diseases such as foot-and-mouth disease, bovine spongiform encephalopathy, and classical swine fever, but also includes the detection of diseases once they enter the country through our monitoring and surveillance activities, and the rapid response to disease whether it is a prevention strategy, a control measure, or an eradication program. We are also involved in programs that promote the marketability of the national herd.

An important goal of the Veterinary Services is to develop, in cooperation and collaboration with industry and stakeholders, a National Animal Identification System that will meet current and future animal health needs of American agriculture. The goal is not to mandate Federal standards or dictate what industry must do. Such a system is needed to maintain the health and biosecurity of the U.S. herd.

### **What is "National Animal Identification"?**

It is important to understand what the term "National Animal Identification" means. The term varies with the region of the country or the sector of the industry. The definition that is most widely accepted evolved over a period of several years:

An identification system that, through established standards and defined data elements, allows for the compatibility of systems while providing the efficient availability of agreed-to information across each segment of the animal agriculture industry.<sup>1</sup>

The definition not only emphasizes the need for industry and government cooperation, but also emphasizes information flow and traceability, rather than simply animal numbering. The establishment of standards allows the overall system to support both marketing and regulatory functions. The type of data that is required by animal health officials to control disease outbreaks is transparent to producers and other stakeholders. Private production data remains private and is kept separate from information required for regulatory animal health programs.

### **The Need for Animal Identification**

A national animal identification strategy is needed to track animal movement in order to maintain the health of our national herd so that:

- Response to national biosecurity threats is swift;

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<sup>1</sup> National Food Animal Identification Task Force, National Institute for Animal Agriculture (2002). National Identification Work Plan

- Response to a foreign animal disease outbreak is swift;
- Trade continues;
- Diseases are eradicated;
- Diseases are controlled; and
- Animal identification crises are avoided

### Threats to Biosecurity

If pathogens are intentionally introduced to harm our food supply, swift tracing is critical. A national identification system can help to strengthen our nation's borders against animal diseases that could adversely affect the national supply of meat.

Animal populations could be inadvertently or intentionally infected and serve as vectors or reservoirs of disease that threaten human populations directly or through the food supply. Tracing animals in this case will be critical to the public health, making animal identification an issue of homeland and national security.

### Foreign Animal Disease Outbreaks

Animals exposed to foreign or emerging diseases need to be quickly traced to protect against further spread and lessen negative impacts on animal production and marketing in the United States and internationally. Animal identification is needed to identify the source of the problem, ensure the containment of the disease, verify the final disposition of affected animals, and provide ongoing surveillance.

### Trade

The United States should be a world leader in rapidly developing systems that become the world standard. For this reason, the United States needs to be consistent with the animal tracking systems of our international trading partners in order to avoid the loss of international markets.

Trading partners need to be assured of an animal's health. To accommodate this need, accurate, verifiable identification associated with movement, disease exposure, testing, and treatment will help to reassure partners of an animal's or herd's health status.

The United States is free of many of the diseases of concern to our world trading partners. As we become free of other diseases of concern to our world trading partners, the export value of our animals and animal products increases. As our export potential grows, the need to quickly trace suspected foreign or emerging diseases will be more important than ever.

### Disease Eradication

It was an accepted practice to identify animals as eradication programs were in full swing. As Veterinary Services winds down some of our disease eradication programs, the need for identification remains high as the eradication of program diseases are completed and verified. After the diseases are eradicated, identification remains important to assure that the disease is gone and to reassure trading partners of the animal's and herd's health status.

Veterinary Services is in the final stages of animal disease eradication programs that have taken many years and millions of dollars to complete. In order to finish the programs and prove to our trading partners that we are free of these diseases, we must quickly and effectively trace diseased or exposed animals. Identification is central to the final eradication of diseases.

### Disease control

In addition to disease eradication programs, the animal industry is interested in controlling or limiting the impact of certain other diseases. An animal identification system also plays an important role in those efforts.

Without animal identification, it is more difficult to randomly sample animal populations and make statistically meaningful comparisons. A national animal identification system will allow the United States to use bio-statistics to arrive at scientifically based conclusions from which decisions can be made. The future needs of the livestock industry post-eradication must be taken into consideration.

### Animal Identification Crisis Looms

At issue is time. Veterinary Services anticipates that within a few years there will be a crisis in livestock identification if nothing is done. As recently as 1995, nearly nine million calves were identified to the farm of origin with orange brucellosis vaccination ear tags. That number represented slightly less than one-fourth of all the newborn calves or about 45 percent of all female calves (only females are vaccinated).

Today, fewer than four million calves are vaccinated (10 percent of total calves, 20 percent of females). When Canada finished eradicating brucellosis, the national herd was identified at the 90 percent level. Three years later, it was down to 10 percent.

Since the United States is very close to declaring itself free from brucellosis, the level of vaccination will continue to decrease, if not cease entirely. The identification of calves to the farm of origin will be minimal in 3 to 4 years. Without an identification system, our country could be vulnerable to any situation that required rapid tracking of animal movement. The usefulness of tracking animals through the current Market Cattle Identification (MCI) and Market Swine Identification (MSI) systems will diminish as brucellosis, pseudorabies, and tuberculosis are eradicated.

## **The Immediate Need**

### Standards

While we realize that a complete tracking system, including change of ownership, may be the ultimate goal of industry, it is essential that we not delay the implementation of basic elements that are fundamental to any system. These include:

- A uniform premises identification system;
- A uniform, nationally recognizable numbering system for individual animal and lot identification; and
- Standard identification methods and devices for official use in livestock

## Identification of High Risk Animals

While we may not have consensus on the need to individually identify all animals in all classes in all species, we can start to work on those animals in which we have agreement and an obvious need. We currently see the need to focus on:

- Animals intended for breeding purposes. The breeding herd represents the animals that are typically tested for disease control purposes and which are most likely to have the diseases with which we are concerned. We are rapidly losing the level of identification needed in this population, and we must quickly return it to a safe level.
- Animals in infected or high risks herds, regions, or zones. This is essential to control and eradicate disease and have our efforts recognized as acceptable by international trading partners.
- Other animals determined by risk analysis and/or cost benefit studies. Scientific studies may shed more light on the type of animals that need to be identified in order to exclude, prevent, detect, and respond to disease threats.

These immediate needs should be met in the next year or two to safeguard the national herd. Our national herd becomes more vulnerable the longer we delay.

## **The Challenges**

A successful National Animal Identification Program requires the input and consensus of State and Federal animal health and food safety officials, livestock industry groups and producers. While much work has been done to build a system everyone is agreeable with, more needs to be accomplished. In working together, there are several issues that need to be addressed.

## Tradition

Long-standing traditions make national animal identification a “hot issue” for some livestock producers. State and Federal departments of agriculture have dealt with traditional disease eradication programs for many decades and have become comfortable with and reliant on those identification systems. The need for change is evident and everyone involved will need to cooperate and work together to create a useful and practical program.

## Cost

While “How much will it cost?” and “Who will pay for it?” are routinely asked questions, more important questions, such as “How much of the cost will be offset by an overall benefit?” and “Who will receive the benefit?” are less frequently asked. It seems reasonable that the beneficiaries of the system would pay for the system in proportion to the benefit derived. How best to assure this will depend on effective discussions with all stakeholders.

The cost of identification devices alone is noteworthy. Consider a dairy cow, for instance, that is presented for slaughter. This animal may have a calfhood vaccination tag (\$0.05), a USDA back tag (\$0.03), a DHIA tag (\$0.08), a metal test tag (\$0.05), and one or two plastic herd production tags (\$1.30-\$2.60). When an estimated labor cost of \$1.00 per device is included, we see an overall identification cost of \$6.50-\$8.80 for this animal. That amount of money would cover the cost of an excellent birth to slaughter electronic identification system. Currently, tamper resistant ear tags with visual and electronic identification can be purchased in volume for around \$2.00 per tag. This price can be expected to

decrease as the volume increases. Since the benefit of the system is shared by many entities, it is reasonable to expect that the cost could be shared as well.

### Data issues

Reliability and accuracy are key components of a quality information system. Any system that is developed must have quality assurance built in.

Data access continues to be an issue. Producers demand privacy of proprietary data and protection of that data from fraud. Government accessibility to data, other than what is needed for animal disease tracing, is not acceptable to our stakeholders. Potential accessibility by other agencies, e.g., the Internal Revenue Service, or the Environmental Protection Service, is a concern. Agreement on what data the government will access is critical.

Data management is critical to the success of a national system. Whether to use a single national animal database or to link existing systems is a matter requiring national discussion. There are already several companies managing data in the private sector and a government national animal programs database in Ft. Collins, Colorado. It seems reasonable to have a system that would allow free market competition between data management providers instead of a system with a “winner take all” national contract. For this to be successful, however, standards of data communication and data recording must be resolved.

### Producer Acceptance Issues

Systems must not be complicated or difficult to use. The identification methods must be easy to apply and remain on the animal for the life of the animal. For the system to be a success, the producers must like the system as well as the methods used. The best methods may differ between species, classes of animals, or regions of the country.

### **The Approach**

As government and industry partners, we need to focus on the need to do what we can right now with the resources and commitment level already achieved. We can build as we go. Our guiding principles should include the need to:

- Build on the rapport established through years of cooperative working relationships;
- Build on common ground and start with things we already agree upon;
- Build it together, not just as a government program or a strict industry system; and
- Build it in phases, not all at once.

When an outbreak occurs, we should have the ability to do something immediately, rather than wait for total consensus on the ultimate system. We have the ability to begin today to make a difference for tomorrow.

There is a real need for State / Federal / Industry action planning through existing animal identification committees in national organizations, focus group meetings, public meetings, task forces, and conferences.

A pivotal event took place in spring 2002. The National Institute for Animal Agriculture (NIAA) assembled a National Food Animal Identification Task Force composed of over 70 individuals representing more than 30 stakeholder organizations. Together, through a well-organized system of

working groups, they developed a National Identification Work Plan. The plan was presented at a national ID/INFO EXPO, sponsored by NIAA in Chicago in June 2002. Additional input was received, and the plan was further modified. The plan was then presented at the United States Animal Health Association in October 2002 and was overwhelmingly endorsed as a document from which to develop a national system. A resolution was passed:

The United States Animal Health Association accepts the National Identification Work Plan (NIWP) report as a guide to establishing a national animal identification program and system. The USAHA requests USDA-APHIS establish, by January 2003, a joint Federal and State government and industry animal identification development team that will use the NIWP as a guide to develop a national animal identification program and system that will enhance animal disease monitoring, surveillance, control and eradication in the United States.

A draft plan should be presented for review to industry and other groups by June of 2003 and for review at the USAHA annual meeting in San Diego California in October 2003.

In support of this resolution, Veterinary Services established a National Animal Identification Development Team Steering Committee in January 2003.

### **Summary**

The efforts of government must display sensitivity to the concerns of private producers. With limited resources and a diminishing number of government program identified animals, the government reliance on producer applied identification and information databases will increase. Access to this information will depend on the relationship of trust that is established between the public and private sectors. Successful implementation of a national system will require a mutual understanding and reconciliation of public and private goals and objectives.



# Animal Identification & Traceability

Protecting the U.S. National Herd



Safeguarding Animal Health



# Background: VS Responsibilities

- Exclusion of foreign animal diseases
- Detection of animal disease
  - Monitoring
  - Surveillance
- Response to detected diseases
  - Prevention
  - Control
  - Eradication
- Improve market access and trade opportunities



Safeguarding Animal Health

# The Need

- National biosecurity
- FAD
- Trade / Market access
- Disease eradication programs
- Disease surveillance and monitoring



Safeguarding Animal Health

# Safeguarding the National Herd



Safeguarding Animal Health

# The ID Goal

- Meet current and future animal health needs
- Cooperate and collaborate with industry



Safeguarding Animal Health

# Traditional US ID System



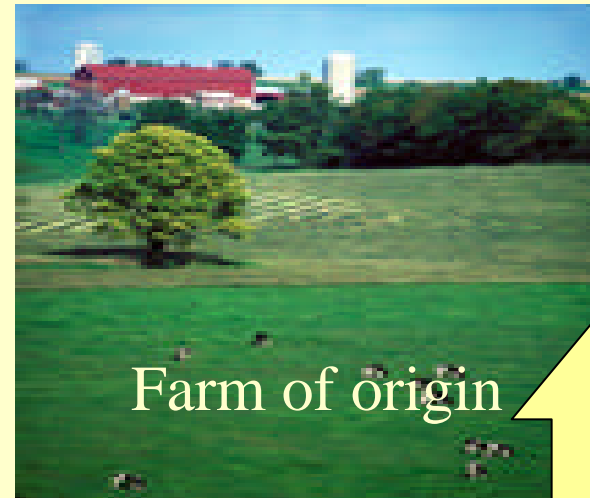
EPIDEMIOLOGY



Safeguarding Animal Health



# If Nothing Changes...



EPIDEMIOLOGY



Safeguarding Animal Health

# Immediate Needs

- Establish national standards
  - Premises identification system
  - Animal numbering system
  - ID methods and devices
- Identify high risk animals
  - Breeding animals
  - Animals in infected or high risks herds, regions, or zones
  - Other animals determined by risk analysis and/or cost benefit studies



Safeguarding Animal Health

# The Challenges

- Tradition
- Cost
- Data issues
  - Reliability, accuracy
  - Access, use of data, producer liability
- Producer acceptance issues
  - Durability
  - Ease of use
  - Usefulness



Safeguarding Animal Health



# The Approach

- Build on rapport and consensus established
- Build on common ground
- Build it together
- Build it in phases, not all at once



Safeguarding Animal Health

>> **announcing...**

**ID • INFO**  
**EXPO 2002**

**CHICAGO, ILLINOIS, USA**

**JULY 29, 30, 31 & AUGUST 1, 2002**

**ID/INFO EXPO 2002 will feature:**

- > NATIONAL EQUINE IDENTIFICATION SYMPOSIUM, July 29-30
- > NATIONAL FOOD ANIMAL IDENTIFICATION SYMPOSIUM, July 31 - August 1
- > TRADE SHOW spanning both conferences

**MAKE PLANS TO ATTEND!**

More information available at  
[www.animalagriculture.org/id](http://www.animalagriculture.org/id)



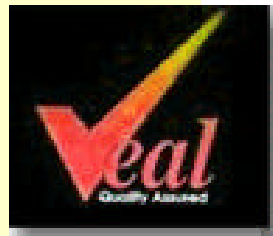
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# Species specific groups



National Pork Producers Council

Protecting and Enhancing the Economic Interests of America's Pork Producers



American Horse Industry Association

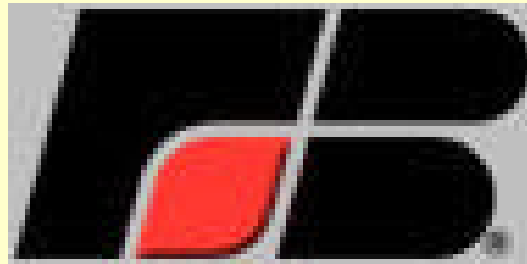


National Cattlemen's Beef Association



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# Organizations



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# Allied Industries



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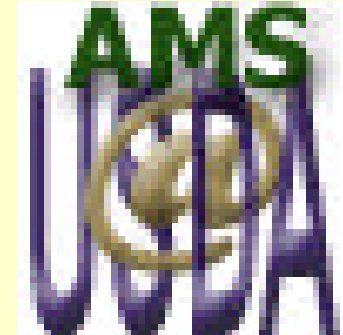
# Veterinary Organizations



**Safeguarding Animal Health**



# Federal Government



U.S. Department of Health and Human Services

Food and Drug Administration



Safeguarding Animal Health

# The Outcome...

- Development of a National Identification Work Plan
  - Presented and approved at the ID EXPO
  - Endorsed by USAHA
  - Handouts available
  - [www.animalagriculture.org](http://www.animalagriculture.org)
- National Animal Identification Development Team
  - Established by USDA
  - Broad representation
  - Implement a system using the plan as a guide



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# Key Features of the Plan

- Focus on animal health protection
- Driven by the need for rapid response to disease threat
  - **48 hour traceback goal**
- Phased-in approach—start with the basics
- Establish national standards
- Species variability as needed
- Flexibility to meet industry and animal health needs



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# Next Steps

- National Animal Identification Development Team
  - Address industry concerns
  - Form subcommittees and working groups
  - Establish action items and time tables
- Targeted pilot studies
  - Farm Animal Identification and Records (F.A.I.R.)
    - <http://www.nationalfair.com/>
    - Handouts available
  - Michigan TB eradication / F.A.I.R.
  - Wisconsin Livestock ID Consortium
    - [www.wiid.org](http://www.wiid.org)
    - Handouts available



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# THANK YOU



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