

## Food Supply Veterinary Medicine and Animal Identification Initiatives: Opportunity for a Venerable Profession

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Since the beginning of animal domestication, the proper care and husbandry of the animal kingdom has been a noble and enduring profession. As scientific and medical knowledge evolved and progressed, veterinary medicine was born. Since the early stages of veterinary medicine, individual clinical assessment and individual therapy were the cornerstones of respected veterinary care. Given the industrialization and consolidation of animal production over the last 50 years, individual animal assessment and individual care has evolved to herd and group veterinary management and production practices. The advent of masses (entire geographic areas) of animals being free of certain infectious diseases has set up increasing risks for major disease epidemics. These epidemics are certain as larger and larger numbers of animals are grouped in food production environments. Protecting the "nation's herd" and applying scientific and technological knowledge in this protection mission will propel veterinary medicine towards a world of animal agriculture that is "data rich".

Growing terror initiatives and evolving export demands are accelerating the adoption of animal information technologies. This data rich environment will offer new ways to assess, manage, and market the business of animal production. Further, protecting the domestic food supply from interruptions and contamination is on the forefront of many political leaders' agendas. Concurrently, economic stability in affluent countries demands that food safety and availability be one of a nation's highest priorities. These trends and pressure points are pushing the meat industries in North America and elsewhere to better coordinate and data enrich their businesses. How does the Food Supply Veterinarian fit into this rapidly changing and evolving opportunity?

Producers, adjusting to these changing demands, will need local support and advice on compliance and adoption strategies for their animals and herds. This support and advice will focus on the producers need to understand technology and strategic options to comply with developing ID initiatives. Local food supply veterinary care is still one of the most trusted sources of information in production agriculture. Veterinarians must use this "call to action" as another way to assist animal agriculture to move forward into this new dimension of data enriched identification and coordination.

### **National Animal Identification**

At the center of the U.S., animal identification discussion is the United States Animal Identification Plan. The plan and supporting documentation are accessible on the internet at [www.usaip.info](http://www.usaip.info). There are wide ranging opinions concerning the potential positive and negative impacts following implementation of an identification system. The implementation of a national system will undoubtedly result in changes in the way business is conducted in animal agriculture. These changes will result in opportunities for Veterinarians. As this initiative unfolds, the resultant data rich environment of animal

agriculture will present many new management thoughts and actions. This expanding data environment in a traditionally “data poor” industry will introduce new animal management and market strategies. Here are a few of the ways Veterinarians may participate in this new marketplace.

### Accredited Veterinarians

Federally accredited Veterinarians have served for years on the frontline of managing animal diseases. They have protected the national herd from foreign animal and zoonotic diseases through their participation in Federal eradication and surveillance programs. In the past, considerable time and effort have been devoted to paper based information systems. New technology is resulting in online federal forms and automated computer based data collection. This reduces the time required for paper work and data entry. A good example of this is the recently deployed Interstate Certificates of Veterinary Inspection (ICVI).

### Federal Emergency Management Response Systems

Emergency Response Systems have received considerable attention in light of the potential for bio-terrorism threats to our food supply. With support from the office of Homeland Security and the USDA, state departments of agriculture have responded by creating new programs such as State Veterinary Emergency Response Teams, Emergency Management Agencies, Emergency Programs/Informatics, and new positions such as Veterinary Coordinator on Disaster Services, Bioterrorism Surveillance Supervisor and Emergency Management Veterinarians. Veterinarians willing to undergo training in animal health emergency response could be employed and deployed by State Departments of Agriculture during animal health emergencies. The training provided by these programs is based on the veterinarian’s type of practice, specialty training, clinical experience, fluency in other languages and geographic location. Continuing Education (CE) credits need to include such disciplines as foreign or emerging disease recognition, disease investigation principals, quarantine procedures, premises disinfection, sample submission, record analysis and vector control techniques.

### Producer Education

The new concepts, technologies, and products that will be associated with the implementation of a National Identification System will result in a need for extensive education programs for producers. Producer education meetings, by their very nature, provide “practice building” opportunities. The need for general animal health services and products can be integrated into these educational meeting. Recently the United States Federal government committed more than \$3 million dollars (U.S.) specifically to assist with development of education materials and support to education initiatives relating to animal identification programs. This support has resulted in a wide range of producer friendly educational materials to address questions. Fact sheets and complete presentations have been developed and are readily available from universities, government agencies and private companies. Some of the topics include: Product

Liability, Information Management and Confidentiality, USAIP Basics and Blueprint, Challenges of Western Production Systems, Benefits and Costs of Animal ID, Country of Origin Labeling vs. National Animal ID, Working with Technology Providers, and Value Add Opportunities associated with production information.

### Compliance Activities

Full implementation of a national animal identification system will necessitate premise identification and coordination of individual animal (e.g. cattle) or production groups (e.g. swine) be uniquely identified in some manner. Currently a variety of methods are accepted as unique identifiers, including electronic identification devices, retinal or iris scans, genetic profiling, and unique visual tags such as “official” USDA tags. It is expected animals will be identified at the original production unit or as the animal enters commerce. A large number of producers will rely on identification service providers to meet compliance requirements. Veterinarians and auction markets are natural choices to provide compliance services since they generally have the facilities, equipment needed for implementation and the expertise necessary to master the new technology. Veterinarians will also be in a position to provide distribution services for EID tags, microchips, scanning equipment and data collection software. In addition, Veterinarians could also act as data coordinators and hardware and software educators. All of these potential service opportunities enhance practice growth through enriching the delivery of needed services.

### Value Added Production Management

The infrastructure resulting from the development and implementation of a national animal identification system will facilitate and create a business environment with unprecedented potential access to both health and production data. Full utilization of this new infrastructure will allow individual animal information aggregation across multiple production units and industry segments. Once again, production veterinarians will be in a unique position to help producers access this information and provide data interpretation services for their clients. These consultative services can be of great value to your client as you help them make and implement production management decisions.

Likewise, in the competitive business of growing animals for human food, the evolutions of niche marketing schemas (e.g. no growth enhancers being used and/or no mass applied antibiotics) can be better facilitated with animal identification and veterinary certification.

### Data Mining and Analysis Tools

Advanced data analysis of health information can be used to describe factors directly affecting profitability. Animals treated for disease inevitably have higher input costs and lower profitability as compared to other animals in their group. In at least one study, utilization of data mining tools has revealed the effects on total profit assessing number of treatments for respiratory illnesses in the feedlot in steers. This study showed steers

suffering respiratory illness one time were ~\$35.00 less profitable and two times were ~\$61.00 less profitable, as compared to steers in their feedlot group that had no respiratory illness treatments. In addition to the cost of pharmaceutical products and labor required to treat animals, reduced performance of the individual animal has significant value. This reduction in performance will be evident in reduced quality of carcass (10% to 15%) as well as fewer pounds of total weight gain (10 to 40 lbs reduction in carcass weight). Reduced performance of the individual animal is often not apparent as these reductions are hidden within group averages. Using individual animal measurement and analysis tools, interventions can be identified and utilized to avoid and/or reduce the impact of animal illness on final profitability.

### **Summary**

Animal identification initiatives will foster healthy participation and interaction between veterinarians and production agriculture owners and managers. Veterinarians can offer the most complete blend of trust, knowledge, technical skills and interpretive assessments to the animal agriculture environment. Identification of animals and coordination of this information will enable those entrepreneurs, skilled at seeing this new dimension of animal agriculture, experience growth in many areas of their businesses. This change will be profound and far-reaching. Veterinarians are well positioned to assist animal agriculture with the adaptation to the exciting opportunities ahead.