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Veterinary Services: Protecting Animal Health and Promoting Trade



Photo credit: Images in this brochure were taken by APHIS photographer Laurie Smith or by agency personnel in the field.

Front cover: VS veterinarians work with sheep breeders to develop flocks that are free of scrapie, a fatal degenerative disease of the central nervous system.

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Mission



An outbreak of a foreign cattle disease in the United States could seriously damage this \$53-billion-a-year industry.

Protecting agriculture today is a challenge that transcends national, political, and geophysical boundaries. The U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) protects and promotes U.S. agriculture by keeping agricultural pests and diseases from entering the country, by facilitating the flow of agricultural exports, and by developing and ensuring compliance with science-based regulations in agricultural trade. Veterinary Services (VS) is the animal health arm of APHIS. VS is dedicated not only to protecting the health, quality, and

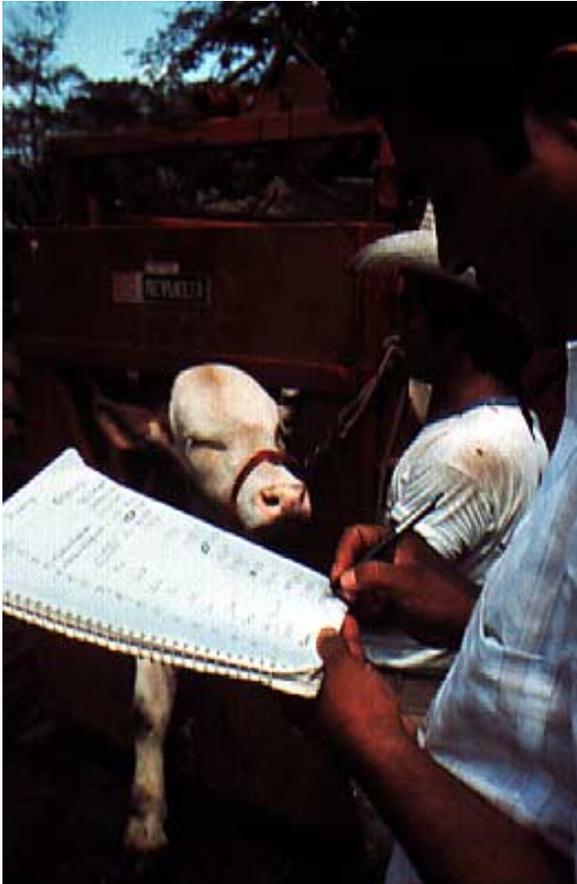
productivity of the Nation's livestock and poultry but also to facilitating agricultural trade.

VS strives to serve the livestock producers of this country as well as the consumers of animal products and citizens concerned about public health and environmental safety. Achieving program goals cannot take place in a vacuum: success requires cooperation with others. To enhance cooperation, VS fosters continuous communication among foreign and U.S. animal health professionals, governments, and industry organizations.

Scope of Activities

Managing VS animal health programs involves five major activities:

- Keeping foreign animal diseases from entering the country,
- Providing an emergency response when exotic livestock diseases slip past U.S. borders,
- Controlling or eradicating major domestic livestock diseases,
- Preventing the interstate spread of diseases, and
- Facilitating exports by attesting to the health status of outgoing animals.



VS officials must keep accurate records to identify blood samples taken in the field for diagnostic tests that support animal health programs.

Employees



VS official checks on the health of a traveler's pet bird kept under quarantine at a border port.

VS employees—more than 30 percent of whom have advanced degrees in such specialties as veterinary science, epidemiology, entomology, and public health—perform their duties in all parts of the country. Management and staff specialists work at APHIS headquarters offices in and near Washington, DC. Currently, the field force operates out of four regional headquarters with local offices in nearly every State, generally in the capital. In the next 2 to 4 years, the Secretary of Agriculture's regional consolida-

tion initiative will streamline the agency's field structure into two new regional hubs—an eastern hub in Raleigh, NC, and a western hub in Ft. Collins, CO.

VS veterinarians get support from a corps of about 45,000 private veterinarians who are officially accredited to test and certify an animal's health status. Field operations also depend to a critical extent on the close cooperation of State animal health employees, the veterinary profession, and the livestock and poultry industries.

Emergency Programs and the READEO System

VS specialists track exotic livestock diseases worldwide and evaluate the risks posed by these diseases. If a foreign animal disease were to become established in American livestock or poultry, the economic consequences to producers and consumers would be severe. For example, eradication of a highly pathogenic form of avian influenza in 1983 and 1984 resulted in the destruction of more than 17 million birds and cost taxpayers nearly \$65 million. This major outbreak caused consumers' poultry and egg costs to increase about one-third in just 6 months.

If an exotic disease were to breach U.S. border defenses, VS officials would assess the threat and decide how best to respond. One option would be to activate one of two Regional Emergency Animal Disease Eradication Organizations (READEO's), operating out of Raleigh and Fort Collins.

READEO team members are highly trained and ready to fight exotic diseases anywhere in the United States. READEO teams can act quickly to confirm the presence of an exotic disease, inspect infected and exposed animals, and appraise the value of

animals that may have to be destroyed. The teams can then direct vaccination programs and conduct epidemiological studies, as well as dispose of infected animal carcasses, clean and disinfect premises, set and enforce regulations against disease spread, and control disease vectors.

The two READEO teams conduct regular practice exercises to ensure that they remain prepared. A recent enhancement to the READEO program is the formation of three-member Early Response Teams that can be deployed anywhere in the United States within 24 hours to assess a disease situation that may lead to the activation of a READEO team. In the event of an activation, READEO team members will quickly set up field operations to lead an eradication effort.

Responding to a disease outbreak requires cooperation among VS personnel, State animal health officials, industry, and the public. VS takes the lead in coordinating the efforts of these groups and ensures that the methods used for dealing with a disease outbreak remain current.

Disease Surveillance



VS tick riders patrol the Texas–Mexican border in the lower Rio Grande River Valley to intercept cattle that may carry ticks or that may pose other disease problems.

Cattle Diseases

APHIS (and its predecessor, the USDA Bureau of Animal Industry) has been working cooperatively with the livestock industries and State animal health authorities since 1934 to eradicate cattle brucellosis from the United States. Nationwide, brucellosis eradication from domestic cattle and bison herds is expected by the end of 1998. As of spring 1998, 44 States, Puerto Rico, and the U.S. Virgin Islands had already achieved brucellosis-free status,

and another 4 States were in the qualifying period with no known infection. To achieve brucellosis-free status, a State's domestic cattle and bison populations must be found free of infection for 12 consecutive months.

VS is also working to eradicate tuberculosis in cattle and bison. VS “tick riders” patrol the Texas–Mexican border on horseback to prevent the reintroduction of cattle fever ticks.



VS veterinarian checks the ear tag on a pig as part of a swine health campaign. Identification is essential to trace back a disease outbreak.

Swine Diseases

Staff officers handling key swine diseases, such as swine brucellosis and pseudorabies, manage eradication programs and coordinate educational campaigns to prevent infection.

A major disease-prevention program ensures that waste food

from restaurants, institutions, and other sources is cooked properly before it is fed to swine. Disease organisms can survive in meat and bones even after an infected animal has died. Proper cooking ensures that if disease agents are brought onto a farm through food wastes, they get stopped in their tracks.



The Voluntary Scrapie Flock Certification Program helps participating owners protect their sheep from scrapie and enhances the marketability of their animals.

Other Diseases

VS also monitors poultry, sheep, and equine health. The National Poultry Improvement Plan certifies the health of poultry breeding flocks. The Salmonella Task Force is responsible for reducing the risk of eggborne illness in humans by investigating egg-related salmonella outbreaks.

The Voluntary Scrapie Flock Certification Program is a cooperative effort between VS, industry representatives, accredited veterinarians, and State animal health officials. The program provides participating

producers with the opportunity to protect their sheep from scrapie and to enhance the marketability of their animals by certifying their origin in scrapie-free flocks. In addition, APHIS regulations restrict the interstate movement of sheep from scrapie-infected flocks.

VS helps prevent such equine diseases as glanders, dourine, and contagious equine metritis in thoroughbreds, pleasure horses, and show horses, and works to maintain their disease-free status through import testing and quarantine procedures.

Expanding Trade



The United States is the world's leading exporter of agricultural products.

With the implementation of trade-liberalizing agreements, such as the General Agreement on Tariffs and Trade and the North American Free Trade Agreement, and creation of the World Trade Organization, the demands facing APHIS have changed dramatically. The volume and complexity of sanitary and phytosanitary issues surrounding trade and the workload associated with regulating imports and facilitating exports are increasing by leaps and bounds. APHIS has a unique position with regard to trade and is striving to carefully balance its

responsibilities to safeguard America's agricultural resources with its efforts to open doors for U.S. agricultural exports.

APHIS' ultimate goal with regard to international trade is to promote the creation of a level playing field where the movement of food and agricultural commodities is based on international standards, risk analysis, and the use of innovative risk-management strategies. To that end, VS, in cooperation with APHIS' International Services unit, actively participates in international standards-setting meetings, such

as those held by the Office International des Epizooties (OIE). OIE is sanctioned by the World Trade Organization as the official entity for the development of international animal health-related standards.

VS' National Center for Import and Export (NCIE) promotes global trade in livestock and poultry by reducing barriers posed by diseases and pests. One staff works to prevent introduction of exotic diseases and pests into the United States. Another staff coordinates documentation to show that exported animals are healthy and meet an importing country's standards.

Facilitating Exports

The export certification efforts of NCIE inspire much-needed trust from foreign countries that they are receiving healthy, pest- and disease-free agricultural shipments.

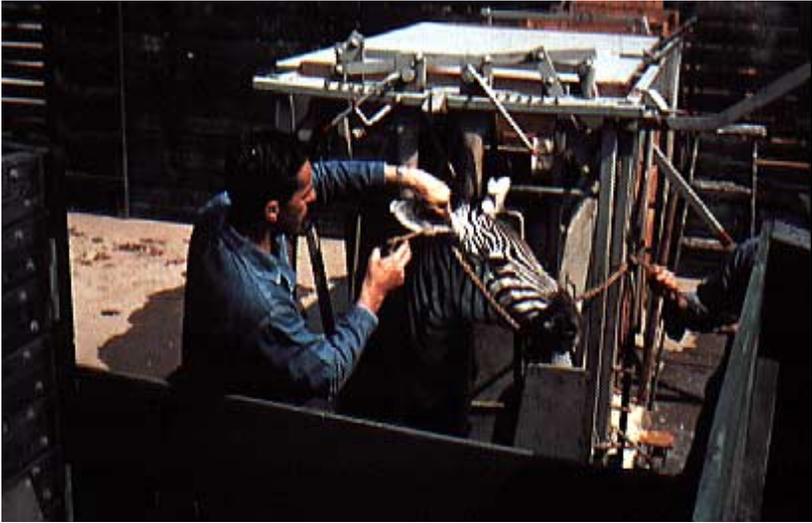
VS import regulations encourage foreign countries to abide by strict animal health standards, and VS is committed to managing the export of healthy animals in return. NCIE personnel work with foreign animal health officials to develop protocols for certifying and testing export animals and animal products.

In Ft. Collins, VS maintains a database called the International Regulation Retrieval System that

lists the animal health requirements of other countries. Exporters and veterinarians can access this retrieval system through the APHIS Home Page on the World Wide Web (<http://www.aphis.usda.gov/vs>).

Disease Exclusion Through Testing Imports

VS' efforts on the homefront to protect American livestock ensure that U.S. consumers can continue to enjoy the bounty of American agriculture and, through increased trade, sample the tastes of the world. NCIE regulates and issues permits for the importation of live animals, poultry, pet birds, and animal products, such as meats, cheeses, casein, gelatins, certain animal hides and racks, and germ plasm—both semen and embryos. NCIE carefully monitors all of these commodities in case they are infected with foreign animal diseases, like avian influenza or hog cholera, that could threaten U.S. livestock populations. For example, countries that have outbreaks of foot-and-mouth disease are not allowed to export fresh, chilled, or frozen meats to the United States. However, such meat products can be shipped into this country if they have been commercially heat processed or cured according to APHIS standards. NCIE establishes similar requirements for countries where other animal diseases exist. VS veterinarians and animal health technicians



VS inspectors examine and quarantine incoming animals, even if they are destined for life in a zoo, in order to protect the health of farm animals.

are stationed at most border crossing points and ports of entry to intercept incoming diseased animals and contaminated animal products before they can enter the United States.

Along the Texas–Mexican border on the lower Rio Grande River Valley, VS maintains patrols that look for cattle that wander or are herded into this country. These so-called tick riders intercept cattle that may carry ticks that can debilitate cattle, reduce dairy and meat production, and spread disease.

Incoming animals that need to be quarantined can be accommodated at a variety of facilities. VS operates Government-owned quarantine stations in Los Angeles, CA, Miami,

FL, and Newburgh, NY, to handle commercial shipments of livestock and other animals. VS also operates six small quarantine centers at border ports to facilitate the safe entry of personally owned pet birds brought in by international travelers. In addition, VS veterinarians and technicians supervise biosecurity at about 65 privately owned bird-import facilities near major U.S. ports.

Animal materials imported for research purposes must be accompanied by import permits specifying the intended use. Such material includes organisms, vectors, cell cultures, animal tissues, antibodies, embryos, animal semen, and other genetic material.

Other APHIS programs also safeguard U.S. borders against the entry of foreign animal pests and diseases. At airport terminals, seaports, and border stations, APHIS' Plant Protection and Quarantine (PPQ) officers inspect international conveyances and the baggage of passengers for plant and animal products that could harbor pests or disease organisms. At international airports, detector dogs in APHIS' Beagle Brigade help find prohibited agricultural materials. PPQ officers also inspect ship and air cargoes, rail and truck freight, and package mail from foreign countries.

Overseas, APHIS operates preclearance programs to eliminate pests in some imported products right at the source. APHIS' International Services (IS) officials stationed in foreign countries maintain a comprehensive information network on the status of animal and plant pests and diseases around the world. IS also negotiates plant and animal health requirements for U.S. exports and foreign imports.

Regionalization

On October 28, 1997, APHIS adopted a final rule on risk-based regional import regulations in accordance with the World Trade Organization Sanitary and Phytosanitary Agreement. The import requirements center around two key points: regionalization and

expanded risk assessment and classification. Risk assessment consists of identifying risk factors and evaluating their seriousness. The concept of regionalization is founded on the longstanding idea that import requirements should be based on geography and science rather than politics.

In other words, APHIS established a framework for allowing the importation of animals and animal products into the United States from foreign regions, rather than only countries. The framework also established procedures by which regions may request permission to export animals and animal products to the United States under specified conditions, based on the region's disease status.

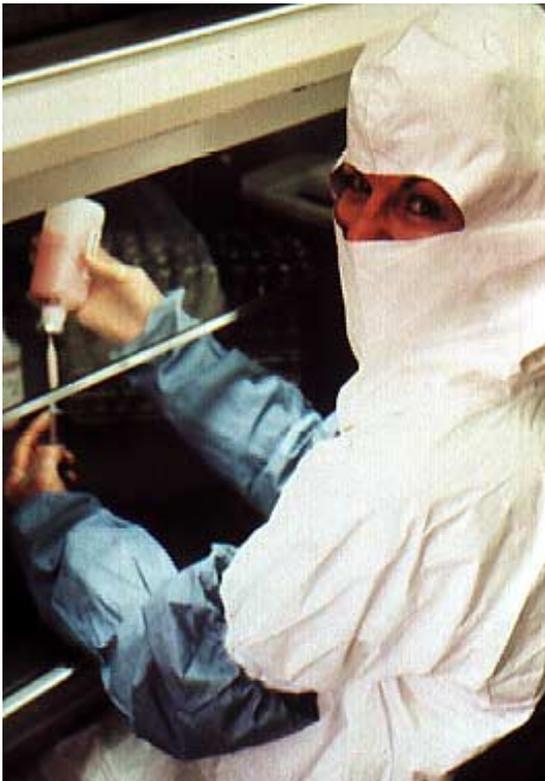
These new regulations have opened new world markets to U.S. agricultural industries and allowed foreign farmers, who previously could not, to sell their livestock and products to American consumers. In May 1997, APHIS recognized Sonora, Mexico, as free of hog cholera and allowed imports of fresh, chilled, and frozen pork under certain conditions. One month later, APHIS announced its final rule to allow the importation of beef from Argentina, finding the country to be a low-risk region for foot-and-mouth disease and rinderpest. These were the agency's first two decisions to allow agricultural imports based on regionalization.

National Veterinary Services Laboratories

The National Veterinary Services Laboratories include several facilities in Ames, IA, and the high-security biocontainment Foreign Animal Disease Diagnostic Laboratory on Plum Island, off the coast of New York's Long Island. The various VS laboratories analyze blood, tissue, and environmental samples to promote disease tracking and identification. Diagnosticians work rapidly and accurately to help APHIS epidemiologists in the field find the cause

of a disease outbreak as quickly as possible.

Laboratory workers also assist in quality control of animal vaccines and related products. VS laboratory technicians check test samples of production runs of manufacturers licensed by the VS Center for Veterinary Biologics in Ames, IA. Any biologics that don't meet Federal standards are kept off the market.



Diagnostician at the VS National Veterinary Services Laboratories works under a laminar flow hood to detect possible salmonella contamination in samples collected on a poultry farm.

National Animal Health Monitoring



VS veterinarians work with poultry breeders to secure healthy breeding stock to control egg-transmitted, hatchery-disseminated diseases.

Besides helping individual VS programs manage their data, VS operates the National Animal Health Monitoring System (NAHMS). NAHMS is a cooperative effort to gather health status information about various species of farm animals—information that will benefit producers, exporters, researchers, practicing veterinarians, and local, State, and Federal animal health officials. Information from NAHMS enables producers to improve farm management practices, especially disease control. Additionally, researchers

and veterinarians can access the data base for comparative studies of disease incidence, risk assessment, and preventive treatment techniques.

Special Campaigns

- VS is enforcing import restrictions and is conducting a surveillance program for bovine spongiform encephalopathy (BSE), a deadly disease that has devastated the cattle industry in the United Kingdom. BSE, widely referred to as “mad cow disease,” is a chronic degenerative disease

History and Accomplishments

affecting the central nervous system of cattle. The United Kingdom announced in March 1996 that BSE may be linked to a variant form of Creutzfeldt–Jakob disease, a similar rare disease in humans.

BSE has not been diagnosed in the United States, and USDA works proactively to keep it that way. In cooperation with USDA's Food Safety and Inspection Service, VS has taken aggressive measures in prevention, education, surveillance, and response. VS leads the interagency surveillance program for signs of BSE in the United States based on laboratories examining brains from high-risk cattle. VS also prohibits the importation of certain animal and animal products from countries where BSE is known to exist.

- In December 1996, APHIS sent an Emergency Response Team to several farms in southeastern Iowa to investigate a disease that was causing sows to abort there and elsewhere. The team worked closely with veterinary practitioners, university diagnostic laboratories, USDA's National Animal Disease Center, the National Pork Producers Council, and the Iowa Pork Producers Association. The disease was found to be an acute form of porcine reproductive and respiratory syndrome, a domestic disease of swine. These cooperative efforts have led to additional joint studies to better understand this acute form of the disease.

The diseases that now concern VS were not a problem to early livestock producers in North America. Animal diseases that plagued Europe, Asia, and Africa were unknown on this continent. The situation changed dramatically in 1843, after a cow sick with contagious bovine pleuropneumonia arrived at the Port of New York and spread the disease to susceptible animals in the newly established U.S. dairy industry.

The threat to U.S. domestic and foreign markets prompted Congress to establish the Bureau of Animal Industry within USDA in 1884. Bureau scientists immediately tackled the outbreak of contagious bovine pleuropneumonia, eradicating that disease by 1892.

The Bureau's scientists later helped eradicate several other diseases. One of their most ambitious projects was to control nine outbreaks of foot-and-mouth disease, a fatal disease that threatens all major classes of livestock. In the United States, this disease was finally wiped out in 1929, and U.S. disease specialists helped to eradicate later outbreaks of foot-and-mouth disease in Canada and Mexico as well.

Federal disease-management campaigns also succeeded in ridding the U.S. livestock and poultry industry of Texas cattle

Future Trends

fever, fowl plague, glanders, dourine, vesicular exanthema, and screwworm infestations. More recently, USDA eradication efforts overcame Venezuelan equine encephalitis, sheep scabies, exotic Newcastle disease, hog cholera, and a highly pathogenic form of avian influenza. The success of these efforts proved the efficacy of maintaining task forces of trained specialists to deal with outbreaks of animal diseases.

The Bureau of Animal Industry was abolished in 1953, and its responsibilities for animal disease management were adopted by USDA's Agricultural Research Service. In 1972, these responsibilities were transferred to the newly formed APHIS.

A number of new directions for VS programs are in the works or on the horizon:

- VS is devoting more resources to preventing and tracking disease while directing fewer resources at extensive new federally managed disease-eradication initiatives.
- VS is encouraging producers to control diseases through voluntary industry-operated programs. For example, the former VS-directed eradication campaign against scrapie in sheep and goats has now become a voluntary industry program supervised by VS. The immediate aim of the program is to reduce the economic damage incurred by producers and to establish disease-free sources of replacement stock.
- VS is also devoting more resources to resolving animal health problems impeding international trade, backing up the monitoring and negotiating efforts of APHIS' International Services.

Additional Information

VS will continue to protect American agriculture by actively working with producers, industry, and the general public to identify, prevent, control, and eradicate animal diseases. Veterinarians and livestock and poultry owners who suspect a foreign animal disease should immediately contact State or Federal animal health authorities.

For further information, contact
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For import permit applications and information about import requirements, contact

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Fax (301) 734-3222
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Retrieval Fax
(301) 734-4952

Current information on animal diseases, suspected outbreaks, and import and export requirements is also available on the Internet. To reach the APHIS home page, point your Web browser to <http://www.aphis.usda.gov>



VS monitors the health of imported pet birds to be sure they don't carry plagues like exotic Newcastle disease, which could devastate the U.S. poultry industry.