

Preventing an Exotic Disease Outbreak and Responding to Such Outbreaks

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Many diseases that are exotic to the United States are currently spreading in the world. Rift Valley fever has spread from South and Central Africa, all the way to Egypt. Increased outbreaks of foot-and-mouth disease have recently appeared in a number of European countries. African swine fever has become established in the Western Hemisphere. Heartwater has been diagnosed in one of the Caribbean Islands. Exotic Newcastle disease is now well established throughout the world. Hog cholera is endemic to Mexico, Central America, the Caribbean Islands, and illegal movement of swine or their products could be a source for additional outbreaks in the United States.

As the number of countries with exotic diseases increase, so also increases the number of potentially diseased animals or vectors that may be introduced. Increased movement of people has greatly increased the possibility of introduction of illegal animal products. The increase has been greatest in air travel (20 million passengers in 1980); however, vehicular movement across common boundaries has also increased. Baggage from passenger movement comprises approximately 80% of the contraband confiscated. A change in the origin, not travelers, has compounded the problem of increased traffic. In 1971, 62 out of every 100 travelers were U.S. citizens. In 1980, only 44 of 100 were such. Illegal movements by boat and air of drug smugglers from South America who may carry animal products are also increasing, especially in the State of Florida. These movements are not screened by Customs or Plant Protection and Quarantine (PPQ) and, therefore, present a hazard to the animal and poultry industries. Illegal movements of birds have and will continue to introduce exotic Newcastle disease into the United States.

The United States has laws and regulations, dating back to 1865, to regulate the entry of certain ruminants, swine, equine, poultry, birds, and their products into this country and thus protects our livestock and poultry populations. The

USDA cooperates with other government agencies to enforce these laws and regulations. There are considerable pressures to relax entry checks and to expedite the movement of people at international ports. USDA should continually be on the lookout for improved methods of baggage, mail, and vehicular inspection at our international ports without compromising the protection of our livestock and poultry populations.

While this remains a PPQ responsibility, Veterinary Services (VS) has considerable interest since it is VS's responsibility for eradicating any outbreaks that may occur. Every effort must be made not only to maintain the current baggage inspection programs, but to also make improvements. Utilization of dogs in detecting animal products, soft x-ray machines, and mechanical "sniffers" should be thoroughly investigated and implemented if possible. Preventing the entry of exotic diseases has been extremely effective in the past. Current restrictions on movement of animal products, along with baggage checks, and information programs have an important part on this effectiveness. Recent outbreaks of exotic diseases have been limited to Venezuelan equine encephalomyelitis (VEE), exotic Newcastle disease (VVND), and contagious equine metritis (CEM). These outbreaks are directly related to distinct problem areas. Disease outbreaks, such as VEE, involving a free-flying vector, cannot be stopped at our borders by routine methods. Pet-type birds are carriers of VVND and are easily smuggled. As long as they are in demand by the public, smuggling will continue. New diseases, such as CEM, may become established prior to the development of technical expertise.

The other method of protection is the quarantine of animals and birds being imported into this country. The Animal and Plant Health Inspection Service (APHIS) has recently constructed two new quarantine stations. Efforts should be continued by USDA to develop and refine

diagnostic techniques (to improve disease detection) which would result in protection of our livestock and poultry populations, but would not place an undue burden on the importer so he would seek ways to circumvent the laws and regulations.

New, never-before-diagnosed diseases may cause outbreaks and spread until better methods are devised to diagnose and eradicate them. Examples of such diseases are CEM and swine vesicular disease. These new, never-before-diagnosed diseases may resemble an animal disease that is endemic and, therefore, spread before it is truly identified. Another area that requires constant reinforcement is the role the livestock and poultry industries have in keeping the United States free of exotic disease. Without the support of the industry concerned and their willingness to have a disease eradicated, regulatory officials will face a severe handicap.

To be able to respond to an outbreak, we must be able to identify the disease. The U.S. has trained several hundred veterinarians in the recognition and diagnosis of foreign animal diseases since 1963. Many of these diagnosticians have since moved into administrative positions, regional positions, or lost by attrition. Budget constraints in FY 1981, for the first time since 1971, prohibited us from conducting a Foreign Animal Disease (FAD) Training Course. A conservative estimate is that Veterinary Services loses 10-15 diagnosticians each year by attrition. Since a single FAD Training Course only trains 12 diagnosticians, it will take a major effort to rebuild this cadre of diagnosticians if training is not held for several fiscal years.

Since 1966, Veterinary Services has periodically held a refresher seminar to update the FAD diagnosticians on new emerging diseases, the movement of exotic diseases from their more traditional locations in the world, and on new or refined diagnostic techniques.

Emergency Programs was activated within Veterinary Services on November 1, 1971. The mission of Emergency Programs is to conduct the planning, training, and organizing in order to be prepared to control or eradicate any disease which may threaten the livestock or poultry industries of the United States. Once the Secretary of Agriculture declares a national emergency, Emergency Programs is responsible for the direction of the field programs. Emergency Programs is composed of three major subunits: National Emergency Field Operations, Technical Support, and International Operations.

The National Emergency Field Operations Staff is responsible for coordinating all foreign animal disease surveillance and diagnostic activities. It is also responsible for reviewing, evaluating, and directing epidemiological activities involving foreign animal disease surveillance and outbreaks. One of the missions is developing, reviewing, and updating policies and procedures concerning all phases of the field operation section of the READEO's. An additional responsibility is reviewing and evaluating literature on foreign animal diseases to relate to the U.S. Livestock and

wildlife populations as well as providing training of diagnosticians. This staff is also charged with maintaining the READEO's in a state of readiness and directing the READEO's in eradication efforts.

The Technical Support Staff is responsible for providing technical expertise, guidelines, and methodology to the National Emergency Field Operations Staff, International Operations Staff, and other agencies on foreign animal diseases surveillance, preparedness, and responsiveness. The staff is to maintain current awareness of technological developments applicable to emergency animal diseases and also develop, review, and update emergency policies and procedures related to foreign animal disease eradication. It is the responsibility of this staff also to acquire and review the world literature on foreign animal diseases and evaluate the information as it may relate to U.S. livestock, poultry and wildlife. They communicate technical and scientific information and excerpts of recently published information to The National Emergency Field Operations Staff. The staff participates in training programs for new foreign animal disease diagnosticians, military support personnel, vector control personnel, Foreign Agricultural Service personnel, and others. During an outbreak of a foreign animal disease they operate the READI system, provide technical data and maps requested by National Emergency Field Operations Staff for disease eradication actions, and participate in decisionmaking conferences at eradication operations headquarters. They also coordinate civil defense and natural disaster activities for the Animal and Plant Health Inspection Service and the United States Department of Agriculture as well as methods development studies through cooperative agreements with universities in the United States and abroad to develop improved methodology for dealing with emergency animal diseases. The staff establishes and maintains close liaison with the Department of Health and Human Services, the Department of Defense, the Department of the Interior, Environmental Protection Agency, and various State agencies.

The International Operations Staff's mission is to develop, formulate, and execute foreign activities including programs for the prevention of exotic animal diseases in Mexico, Colombia, Central America, and Panama. They maintain worldwide surveillance of animal and poultry diseases exotic to the United States. They also collect and disseminate information on the worldwide status and movement of disease exotic to the United States and provide all phases of staff support for Veterinary Services overseas programs, including budgetary necessary to achieve objectives of the foreign programs. They represent the United States at national and international meetings and serve as a consultant, advisor, and liaison to Federal and State officials, international organizations, representatives of industry, and various organizations, foundations, individuals, and other officials interested in animal health programs. The staff develops and executes training

opportunities for Veterinary Services personnel in those countries where animal and poultry diseases exotic to the United States may exist in order to develop a cadre of technically qualified diagnosticians.

In 1974, Emergency Programs organized a Regional Emergency Animal Disease Eradication Organization (READEO) in each VS region. The goal of Veterinary Services was to have these well-trained organizations in the field to respond to outbreaks of exotic diseases. The READEO's were organized to be ready to battle any exotic disease that penetrates our border defenses. The best qualified individuals available in each region were selected to participate on these disease-fighting teams. Each of the five Veterinary Services regions have READEO units composed of Federal, State, university and military personnel. Membership on these organizations changes because of transfers, retirements, deaths, etc.

Each Assistant Regional Director for Veterinary Services is responsible to the National Emergency Field Operations Staff, Emergency Programs, for the readiness of the READEO unit. These units are organized with three section leaders, administration, staff support, and field operations. The administration leader is in charge of personnel and safety, supply, communications and reports, vehicles, contract and leases, and finance. The staff support includes epidemiology, training, laboratory support, economist, environment, vaccination evaluation, and disease reporting responsibilities. Field operations are responsible for diagnosis and inspection, regulations enforcement, vector control, security and disease prevention, and vaccination. Each section leader answers directly to the READEO Director as do the disease specialist, meat and poultry inspection, information, military, and wildlife personnel. An alternate has also been appointed for each position on the

READEO team, which in effect makes 10 READEO teams.

Legislation passed by Congress beginning in 1884 has served well to promote the healthiest livestock population in the world. However, the systems developed are not perfect and a number of protective voids exist. Imported zoo animals and birds are potential risk in that they may be carriers of virus that could cause disease in other species. Also, legally imported animals and birds are tested for exotic diseases, but not all diseases. Illegal movements of animals, semen, embryo transplants, animal products, and birds could be the source of the next disease outbreak.

The protection of the U.S. livestock and poultry populations is continuing to erode. If our resources are not renewed by training, on-the-job experience, or refresher courses, the situation will continue to deteriorate.

State veterinarians cooperate with Federal veterinarians in exotic disease eradication programs. State quarantines and regulations are implemented in a particular State for emergency situations. These State regulations are used in conjunction with any Federal regulations that may be necessary. A Memorandum of Understanding has been completed with each State. This Memorandum of Understanding is to utilize State authorities and personnel. The Secretary of Agriculture has authority to declare an emergency when he finds that a disease exists which constitutes a threat to the livestock industry of the United States. If the Secretary finds that adequate measures cannot or are not being taken by the State or other jurisdictions, an extraordinary emergency may be declared. This enables the Secretary to seize, quarantine, and dispose of any animals/poultry or their byproducts believed to be infected with a foreign animal disease. Such action is necessary to guard against further spread of a contagious disease or the possible introduction of a contagious disease.