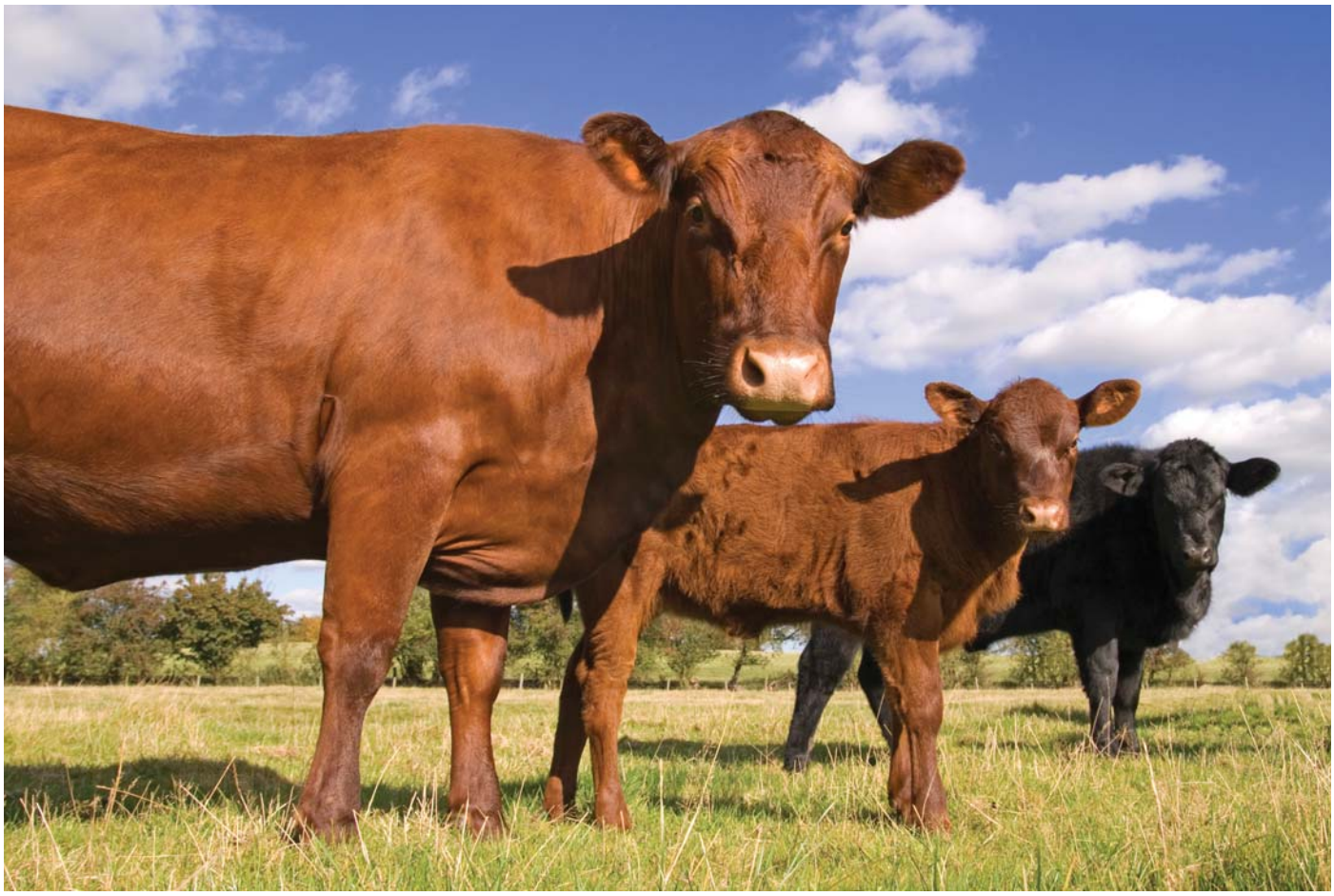

Quick Facts about Foreign and Endemic Animal Diseases

FAZD CENTER

National Center for Foreign Animal and Zoonotic Disease Defense

A Department of Homeland Security Center of Excellence

STATE	EXTENSION PROGRAM	POINT OF CONTACT
Arkansas	University of Arkansas–Pine Bluff, Cooperative Extension Program University of Arkansas Cooperative Extension Service	Henry English Tony Windham
Kentucky	Kentucky State University Cooperative Extension Program Kentucky Cooperative Extension Service	Marion Simon Andrea Husband
Montana	Montana State University Extension Service Chief Dull Knife College Salish Kootenai College	Tom Bass James Hafer Virgil Dupuis
North Carolina	Cooperative Extension Program, North Carolina A&T University North Carolina Cooperative Extension	David Jones Donna Carver
Tennessee	Tennessee State Cooperative Extension Program University of Tennessee Extension	Finis Stribling Fred Hopkins
Texas	Cooperative Extension Program Prairie View A&M University Texas AgriLife Extension Service	Hugh Soape Shannon Degenhart

FAZD Educational Resources:

(Provided on the CD that is included in the Foreign Animal Zoonotic Diseases Handbook)

Foreign Animal and Zoonotic Diseases Handbook (2008). National Center for Foreign Animal and Zoonotic Disease Defense—A U.S. Department of Homeland Security Center of Excellence.

QuickFacts about Foreign and Endemic Animal Diseases (2008). National Center for Foreign Animal and Zoonotic Disease Defense—A U.S. Department of Homeland Security Center of Excellence.

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FOREWORD

Quick Facts about Foreign and Endemic Animal Diseases is an emergency preparedness and response reference for federal, state and local educators and officials and for private veterinarians. This information was taken from the *Foreign Animal and Zoonotic Diseases Handbook* and the *Foreign and Emerging Animal Diseases Handbook*. Quick Facts answers general questions. For more information, see the resources listed in each section or refer to the two handbooks.

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Founded in 2004, the National Center for Foreign Animal and Zoonotic Disease Defense (the FAZD Center) is the Department of Homeland Security Center of Excellence charged with developing products to defend the United States from the introduction of high-consequence foreign animal and zoonotic diseases. Core partners are Texas A&M University (host institution), the University of California—Davis, the University of Southern California, and the University of Texas Medical Branch. Visit the Web site at *http://fazd.tamu.edu*.

Potential Occurrences of Foreign and Endemic Animal Diseases (FEADs)

Angela I. Dement, Extension Assistant for Veterinary Medicine
The Texas A&M System

What is a foreign animal disease (FAD)?

A foreign animal disease is one that is not currently present in any animals in the U.S.

What is an emerging animal disease (EAD)?

An emerging animal disease is one that is a new disease or a new form of an old disease endemic to the U.S. that is becoming more prevalent.

What is an endemic animal disease?

An endemic animal disease is one that is present in the U.S. already.

Are FADs a serious threat to the U.S.?

Yes. In other countries such diseases have caused tremendous economic losses to the livestock and poultry industries and have had devastating sociologic and economic effects on communities.

What could be responsible for the increasing prevalence of EADs?

This may be related to animal movement in commerce, mutation of disease-producing agents, or changes in environmental conditions.

What is the first line of defense against FEADs?

Livestock owners. They must keep a sharp eye on livestock and poultry and promptly report any unusual symptoms.

Is early detection important?

Yes. Early detection and reporting could prevent the loss of billions of dollars for our livestock and poultry industries and communities.

To whom should unusual symptoms be reported?

A private veterinarian or state or federal animal health regulatory agency.

How can diseases be introduced?

Diseases can be introduced naturally, accidentally or intentionally (bioterrorist act).

What is being done to prevent FEADs?

State and federal agencies and industry organizations are working together to help protect the livestock and poultry industries from FEADs.

For more information:

Texas AgriLife Extension Service—Veterinary Medicine:
http://aevm.tamu.edu

Epidemiology of Animal Diseases

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The Texas A&M System

What is epidemiology?

Epidemiology is the study of the transmission of diseases. It also focuses on preventing exposure to disease agents and developing immunity in populations.

What are infectious diseases?

Infectious diseases are caused by disease agents that enter the skin, mucous membranes, lungs, mouth or reproductive tract of an animal.

What are infectious agents?

Infectious agents include bacteria, fungi, viruses, prions, protozoa and rickettsiae.

What is an incubation period?

An incubation period is the time interval between an infectious agent entering a susceptible animal or person and the appearance of symptoms or detection of infection by a laboratory test.

What are some stress factors that can cause the emergence of a latent infection?

Weather, breeding, pregnancy, birth, weaning, shipping, working, and changes in nutrition are all stress factors that can cause the recrudescence or shedding of a latent or dormant infection.

What is a zoonotic disease?

A zoonotic disease is one that can be transmitted between animals and people. Some zoonoses may be transmitted by direct contact, while others require fomites, vehicles and vectors such as ticks or mosquitoes.

How are diseases spread?

A disease spreads when the primary agent escapes from an infected host and travels to a new susceptible host by means of direct or indirect transmission.

What is direct transmission?

Direct transmission occurs when a susceptible animal or human comes in direct or close contact with an infected, contagious animal or human. This is the most common means of transmission.

What is indirect transmission?

Indirect transmission occurs when animals and people come in contact with infected or contaminated animate vectors, inanimate vehicles and environmental fomites.

What regulatory agencies are involved with foreign and endemic animal diseases?

The U.S. Department of Agriculture, specifically the Animal and Plant Health Inspection Service (APHIS), Veterinary Services (VS), is responsible for controlling and eliminating livestock and poultry diseases and pests. The U.S. Department of Health and Human Services, specifically the Public Health Service, is responsible for eliminating human health problems. These federal agencies collaborate with their respective state agencies.

For more information:

Texas AgriLife Extension Service—Veterinary Medicine:
http://aevm.tamu.edu

Means and Routes of Disease Transmission

Angela I. Dement, Extension Assistant for Veterinary Medicine
The Texas A&M System

Means of disease transmission are classified as either direct or indirect. Understanding the routes of disease transmission can help producers prevent the entry and spread of disease.

Means of transmission:

Direct transmission

Direct transmission occurs when susceptible animals and people come in direct or close contact with the respiratory air droplets; saliva; nasal, ocular or genital mucus; fetal fluids; feces or urine; milk; skin; or blood of infected, contagious animals and people. Prenatal and venereal routes also are direct means of disease transmission.

Indirect transmission

Indirect transmission occurs when susceptible animals and people come in contact with infected or contaminated vectors (such as flies, mosquitoes, gnats and ticks), inanimate vehicles (instruments, utensils, equipment) and environmental fomites (food, water, soil and air).

Routes of transmission:

Aerosol transmission

Aerosol transmission occurs when pathogens are carried in tiny moisture droplets in the air. The moisture droplets are usually from respiration, sneezing or coughing. An easy way to prevent aerosol transmission is to distance susceptible animals from infected animals, because the concentration of aerosol pathogens decreases in the air as distance increases.

Oral transmission

Oral transmission occurs when a pathogen enters the oral cavity of an animal. Manure often contaminates feed, water and other objects, so it is important to routinely dispose of manure, disinfect feed and water troughs, and limit the number of things animals might chew and lick.

Vector transmission

Vector transmission is the transmission of disease by arthropods, scavengers and people. Vector transmission can be mechanical or biological. In mechanical transmission, the vector simply transmits the disease agent without development or multiplication of the pathogen. Biological transmission occurs when the disease agent changes inside of the vector and requires an incubation period before the vector is infectious. The easiest way to prevent arthropod-borne transmission is to eliminate the vector. Use insecticides and biological control and remove breeding areas to help eliminate arthropod vectors such as mosquitoes, flies, ticks and fleas from the environment.

Vehicle transmission

Inanimate objects such as instruments, utensils, food, soil, air and water can transmit disease agents from one animal to another. The easiest form of prevention is to disinfect equipment and other objects that are routinely used on a large number of animals, to control

traffic coming onto an operation as well as within it, and to designate certain areas for specific tasks.

Zoonotic transmission

Zoonotic diseases are shared between animals and humans. They can spread from animal to animal, animal to human, human to animal, or human to human. When dealing with sick animals, it is very important to use preventive measures to reduce your chance of exposure to pathogens.

For more information:

Texas AgriLife Extension Service—Veterinary Medicine:
http://aevm.tamu.edu

Biosecurity Best Management Practices

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The Texas A&M System

What is biosecurity?

Biosecurity describes those management practices that prevent infectious diseases from being introduced into a herd or flock.

Who should implement biosecurity practices?

Anyone involved in the animal industry.

What are the four phases of biosecurity?

Mitigation, preparedness, response and recovery.

What is the mitigation phase?

Mitigation is defined as a way to make something less harsh or hostile. You can think of mitigation as a type of prevention.

What is the preparedness phase?

Preparedness is planning, training for and practicing mitigation efforts to ensure their usefulness. Preparedness helps determine which mitigation practices are effective, realistic and affordable.

What is the response phase?

The response phase is reacting to an actual event in the most efficient and effective manner possible. The first 24 hours of a disease outbreak are crucial. Producers should report any abnormal health issues to a private veterinarian or to animal health regulatory officials immediately.

What is the recovery phase?

The recovery phase is the period after a disease outbreak when premises and facilities are restored to a useable condition. Recovery practices might include covering pits, sampling ground water and disinfecting. Authorities can help determine what needs to be done before animals are restocked.

For more information:

Texas AgriLife Extension Service—Veterinary Medicine:

http://extensionvetmed.tamu.edu

Texas Animal Health Commission:

www.tahc.state.tx.us/news/brochures/biosecurity.pdf

www.tahc.state.tx.us/news/brochures/TERT_Brochure.pdf

State and Local Emergency Management Plans

Brandon J. Dominguez, Research Associate and Veterinary Epidemiologist
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What is the state emergency management plan?

The State Foreign and Emerging Animal Disease (FEAD) Response Plan is an integral part of the overall emergency management planning structure coordinated by each state's emergency management system. The plan functions under an identified Incident Command System (ICS), with Incident Command Posts (ICPs) and Incident Commanders (ICs).

What is the purpose of the FEAD Response Plan?

The purpose of this plan is to provide guidance for mitigating against, preparing for, identifying, responding to, and recovering from any infectious or highly contagious animal disease affecting poultry, exotic and domestic livestock, and wildlife.

What is a foreign animal disease?

A foreign animal disease is one that is not currently present in any animals within the U.S.

What is an emerging animal disease?

An emerging animal disease is a new disease or a new form of an old disease that is endemic to the U.S. and is becoming more prevalent.

What are endemic animal diseases?

An endemic animal disease is one that is present in the U.S. already.

What happens in a suspected FEAD outbreak?

Suspected FEAD outbreaks are to be reported to state animal health authorities and the Veterinary Services unit of the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (USDA-APHIS-VS). A foreign animal disease diagnostician (FADD) will be assigned to investigate the condition of the animal(s).

What does the FADD do?

The FADD will:

- Obtain samples and submit them for analysis.
- Establish movement restrictions and increase biosecurity.
- Activate the First Assessment and Sampling Team (FAST), if needed, through the state veterinarian or USDA-APHIS-VS.

What does the FAST do?

Based on laboratory and other findings, the FAST will recommend to the state animal health agency whether or not to activate the Emergency Response Team (ERT), who would then establish and operate an ICP.

What is the response to an FEAD outbreak?

Control and eradication of an identified FEAD will involve many local, state and federal agencies, and not just those associated with agriculture. Response to an FEAD is generally a "top down" series of actions rather than a "bottom up" request for assistance as seen in typical emergency situations.

Who is in the ICP?

An ICP may be as small or as large as necessary to manage response operations for eradicating the FEAD. It may involve only state and possibly federal animal health personnel; or it may include many local, state and federal organizations.

What does the local emergency management plan include?

Counties should have current emergency management plans for addressing potential hazards, protecting citizens, and assisting in the recovery process. County plans should address such issues as the need to rescue or apprehend stray animals, provide shelter for animals, quarantine animals that might be diseased, dispose of (diseased or nondiseased) carcasses, and provide medical help for sick and injured animals.

Who is in charge of the local emergency management plan?

Each county should designate at least one individual as the local Emergency Management Coordinator (EMC). The EMC works with others at the local level to address issues unique to that city and/or county and to determine what should be done before, during and after a disaster.

What part of the plan deals with animals?

Each county should also have an animal issues committee (AIC) to help develop the local animal issues plan (AIP). The AIC will advise the EMC, help anticipate problems, and develop action plans for dealing with natural, accidental or intentional animal disasters.

Who responds to animal emergencies?

A County Animal Resource Team (CART) can handle animal-related disasters that deal primarily with nondisease emergency situations. While each county will not have a CART, certain counties may have more than one, and they all must coordinate with the state animal resource team program.

For more information:

Governor's Division of Emergency Management:
ftp://ftp.txdps.state.ts.us/dem/pages/index.htm

Texas Animal Health Commission:
http://www.tahc.state.tx.us/emergency/

http://www.tahc.state.tx.us/emergency/planning.shtml

Texas AgriLife Extension Service—Veterinary Medicine:
http://aevm.tamu.edu

African Swine Fever

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The Texas A&M System

What is African swine fever (ASF)?

ASF is a highly contagious viral disease of swine.

Is the disease a foreign or emerging/endemic disease?

ASF is a foreign animal disease.

What animals are affected?

Domestic and feral swine.

How is it transmitted?

Blood-sucking insects spread the disease to susceptible herds. Ticks can carry the virus for life and maintain it in their colonies for years. The virus can be shed in bloody feces or in nasal discharges, which can contaminate the environment.

The easiest way to infect a susceptible herd is to feed them raw or undercooked garbage containing pork products infected with the ASF virus. Swine that consume the garbage become infected or remain asymptomatic but become carriers of the virus.

What is the incubation period of the disease?

Infected swine may show signs after an incubation period of 5 to 19 days (if they have direct contact with infected animals) or less than 5 days (if infected by a tick bite).

What are the symptoms?

Symptoms include:

- high fever
- anorexia
- lethargy
- bluish skin blotching on ears, tail, lower legs and hams
- hemorrhages in the skin and organs
- hyperemia
- vomiting
- lesions on snout, legs and toes
- death

Can people be infected?

No.

Is there a vaccine?

No.

Is this disease preventable?

Yes. Producers should have biosecurity practices such as:

- cooking garbage to at least 158 degrees F
- not importing pork products from ASF endemic countries
- controlling insects
- disinfecting facilities regularly
- keeping feral hogs off the property

Is this a reportable disease?

Yes. If a veterinarian diagnoses a case of ASF, it must be reported immediately to state or federal animal health regulatory officials so they can control/eradicate the outbreak by implementing quarantines.

Who should be contacted if ASF is suspected?

Immediately contact a private veterinarian or the state or federal animal health regulatory agency.

For more information:

The Center for Food Safety and Public Health:
http://www.cfsph.iastate.edu/Factsheets/pdfs/african_swine_fever.pdf

Anthrax

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What is anthrax?

Anthrax is a worldwide bacterial disease that causes sudden death, primarily in livestock. In the U.S. it commonly occurs in Nebraska, Mississippi, Arkansas, Texas, Louisiana and California.

Is the disease a foreign or emerging/endemic disease?

Anthrax is endemic to the U.S.

What animals are affected?

Anthrax occurs in many animal species as well as in people, but livestock are mostly affected.

How is it transmitted?

Anthrax bacteria in bloody exudates from the mouth, nose and anus of a dead, infected animal contaminate the environment and develop into resistant spores. Animals become infected by ingesting or inhaling these spores.

What is the incubation period of the disease?

The incubation period is 1 to 20 days, with illness usually becoming apparent after 3 to 7 days.

What are the symptoms?

Different species of animals exhibit different symptoms. In ruminants, these may include staggering, trembling and dyspnea, followed by rapid collapse, terminal convulsions and death. The acute symptoms are usually seen about 2 days before the animal dies. Other symptoms that might be observed are fever and excitement followed by depression; stupor; disorientation; muscle tremors; abortion; congested mucous membranes; bloody discharge from the nose, mouth and anus; and subcutaneous swellings.

Symptoms in horses include fever, chills, anorexia, depression, severe colic, bloody diarrhea and swelling. A horse with these symptoms usually dies within a week.

Swine that contract the anthrax bacteria may exhibit mild, chronic infections followed by fever, swelling and enlarged lymph nodes. Swine usually recover from this type of infection, but some are asphyxiated by the swelling and die.

In the field, good indicators that an animal has died from anthrax are poor blood clotting and little or no rigor mortis. The carcass will also bloat and decompose rapidly, sometimes with a dark, tar-like, bloody substance oozing from the animal's orifices.

Can people be infected?

Yes. People exposed to anthrax should seek medical attention immediately.

Is there a vaccine?

Yes. A live-strain vaccine is available for livestock where anthrax is endemic.

Is this disease preventable?

Yes. Anthrax can be prevented by vaccinating animals in endemic areas. USDA-APHIS restricts the importation of animal products from countries where anthrax occurs. If you suspect an animal has died from anthrax, do not open the carcass. If the carcass remains closed, the bacteria will not be exposed to oxygen and can not turn into spores. In an unopened carcass, the bacteria will decompose rapidly and not contaminate the soil.

Is this a reportable disease?

Yes. If a veterinarian diagnoses a case of anthrax it should be reported immediately to state or federal animal and public health officials.

Who should be contacted if anthrax is suspected?

Immediately contact a private veterinarian or the state or federal animal health regulatory agency.

For more information:

Texas AgriLife Extension Service—Veterinary Medicine:
http://aevm.tamu.edu

The Center for Food Safety and Public Security:
http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

USDA-APHIS:
http://www.aphis.usda.gov/publications/animal_health

Texas Department of State Health Services:
http://www.dshs.state.tx.us/idcu/disease/anthrax/

Avian Influenza

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What is avian influenza (AI)?

AI, caused by a virus, is a respiratory disease of wild and domestic fowl. There are many different strains organized into two classifications, based on the severity of the disease—a low-pathogenic (LPAI) and a high-pathogenic avian influenza (HPAI).

Is the disease a foreign or emerging/endemic disease?

LPAI is endemic to the U.S., but HPAI is a foreign animal disease.

What animals are affected?

AI affects many bird species such as chickens, turkeys, pheasants, quail, ducks, geese and guinea fowl. Migratory waterfowl are the natural reservoir for the virus.

How is it transmitted?

Infected birds carry the virus in their intestines and shed it, infecting other birds. Susceptible birds that come into contact with the saliva, feces or nasal excretions of infected birds become infected themselves. Studies have shown that 1 gram of manure contaminated with the HPAI strain can contain enough virus to infect 1 million birds. The virus can also be spread by contact with contaminated equipment, vehicles, egg flats, crates and people (clothing, shoes, etc.).

What is the incubation period of the disease?

The incubation period of the virus is 1 to 7 days.

What are the symptoms?

With either strain birds can show a variety of symptoms or none at all. Symptoms include sudden death without clinical signs; lack of energy or appetite; decreased egg production; soft-shelled or misshapen eggs; swelling of the head, eyelids, comb, wattles and hocks; purple discoloration in wattles, comb and legs; nasal discharge; coughing and sneezing; incoordination; and diarrhea. Most birds that contract the LPAI strain have few if any symptoms.

Can people be infected?

LPAI is not infectious but some strains of HPAI, such as H5N1, can possibly be infectious to humans. This strain causes high mortality in birds. People who are at most risk are those who work in the poultry industry and handle the birds on a daily basis.

Is there a vaccine?

No. There is an experimental vaccine that is not yet approved by FDA.

Is this disease preventable?

Yes. The best way to prevent AI is to implement biosecurity protocols such as disinfecting coops, crates, machinery, people and clothes on a regular or daily basis; limiting exposure by not allowing the flock manager or workers to visit any other poultry flocks; keeping clothes that are worn on the grounds separate from those that are worn off the premises; reporting any sick or dead birds to the manager and properly disposing of carcasses.

Is this a reportable disease?

Yes. It should be reported immediately to state or federal animal health officials.

Who should be contacted if AI is suspected?

Immediately contact a private veterinarian or the state or federal animal health regulatory agency.

For more information:

Texas AgriLife Extension Service—Veterinary Medicine:
http://extensionvetmed.tamu.edu

The Center for Food Safety and Public Security:
http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

USDA-APHIS:
http://www.aphis.usda.gov/publications/animal_health

CIDRAP:
http://www.cidrap.umn.edu/cidrap/content/influenza/avianflu/biofacts/avflu.html

Bluetongue

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The Texas A&M System

What is bluetongue?

Bluetongue is a vector-borne virus that affects wild and domestic ruminants. This disease is also known as pseudo-foot and mouth disease because its symptoms are similar to those of FMD.

Is the disease a foreign or emerging/endemic disease?

Bluetongue is endemic to the U.S.

What types of animals are affected?

Ruminants.

How is it transmitted?

Bluetongue is transmitted by biting midges and, most commonly, the sand fly. The virus can also be transmitted by surgical needles and equipment. Cattle can amplify the virus by remaining infected but showing no symptoms. Then the biting insect acquires the virus and transfers it to a new individual. Venereal transmission from bulls is possible; the bluetongue virus has been reported in semen, but this route of transmission is not as important as the vector route. The virus is not transmitted directly between animals.

What is the incubation period of the disease?

The incubation period varies with species. It is 5 to 10 days in sheep and 4 days to 9 weeks in cattle.

What are the symptoms?

Sheep display a variety of symptoms ranging from extremely severe to mild. Most sheep, once infected, exhibit fever and panting. The lips, gums, eyelids and nose may be swollen with bloody edema and mucus may ooze from the nose. The tongue may also swell and turn blue, hence the name of the disease. Erosions or ulcerations may be present in the nasal or oral cavity. Hooves of the animal can be painful, causing lameness. Pregnant ewes may abort or have stillbirths. The severity of the disease depends on the strain of the virus, but mortality is highest in young lambs.

Can people be infected?

No.

Is there a vaccine?

Yes.

Is this disease preventable?

Yes. Proper vector control will help prevent livestock from becoming infected. Keeping animals in barns at night will limit their contact with vectors and livestock.

Is this a reportable disease?

No.

Who should be contacted if bluetongue is suspected?

Immediately contact a private veterinarian.

For more information:

The Center for Food Safety and Public Security:

http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

Botulism

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The Texas A&M System

What is botulism?

Botulism is a bacterium that produces a fatal toxin when the bacterium grows in anaerobic tissues.

Is the disease a foreign or emerging/endemic disease?

Botulism is endemic to the U.S.

What animals are affected?

Animals infected are wildfowl, poultry, cattle, sheep, horses and some fish. Rarely are dogs and swine affected.

How is it transmitted?

Botulism is primarily transmitted orally. Susceptible animals become infected when they consume decaying carcasses, spoiled plant material, or any feed that is contaminated with the bacterium and toxin. Cattle can become infected if they have a phosphorous-deficient diet and lick the bones of decomposed cattle carcasses. Any animal can be infected by eating grass near a carcass, where they can ingest the bacterial spores. Horses can be exposed by consuming spoiled silage or hay. Shaker foal syndrome is associated with the botulism toxin.

What is the incubation period of the disease?

The incubation period is 2 hours to 2 weeks, with most symptoms appearing 12 to 24 hours after exposure to bacterial spores or toxin.

What are the symptoms?

The symptoms of botulism include:

- rapid muscle paralysis (cardiovascular or respiratory)
- difficulty chewing and swallowing
- visual disturbances
- generalized weakness
- death

Can people be infected?

Yes.

Is there a vaccine?

Yes.

Is this disease preventable?

Yes. Correcting dietary deficiencies, removing spoiled silage or hay, and vaccinating animals are ways to protect them from botulism infection.

Is this a reportable disease?

Human cases of botulism are reportable to state health departments and the Centers for Disease Control (CDC). Animal cases are not reportable.

Who should be contacted if botulism is suspected?

Immediately contact a private veterinarian.

For more information:

The Center for Food Safety and Public Health:
http://www.cfsph.iastate.edu/Factsheets/pdfs/botulism.pdf

Bovine Paratuberculosis

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The Texas A&M System

What is bovine paratuberculosis (Johne's disease)?

Bovine paratuberculosis, also known as Johne's disease, is caused by a bacterium related to the infectious agents that cause leprosy and tuberculosis. The disease is contagious, chronic, and usually fatal in ruminants. It affects the intestines of the animal.

Is the disease a foreign or emerging/endemic disease?

Johne's disease is endemic to the U.S.

What animals are affected?

The disease affects ruminant animals such as cattle, sheep and goats.

How is it transmitted?

Transmission occurs when infected cattle shed bacteria in their feces, which contaminates soil and water. Young animals become infected by ingesting bacteria in the environment and slowly develop the disease in adult life. Adult animals do not usually become infected.

What is the incubation period of the disease?

Most cattle become infected before they are 1 year old. Symptoms are hardly noticeable until at least 2 years after infection.

What are the symptoms?

Symptoms in adult cattle may become obvious after a stressful event such as calving. Symptoms include weight loss in animals that are eating normally, accompanied by diarrhea caused by the thickening and hardening of the intestine and poor absorption of nutrients. Some animals develop a swelling under the jaw, called intermandibular edema or "bottle jaw." This is caused by protein deficiency. As an animal's intestines harden, protein can not be absorbed. Once an animal exhibits symptoms, death is inevitable.

Can people be infected?

Possibly. Johne's disease may be associated with Crohn's disease in humans, but there is no known transmission from cattle to humans.

Is there a vaccine?

No.

Is this disease preventable?

Yes. Purchase animals from herds that have tested negative for the disease. Implement good sanitation and best management practices. Any animal that tests positive for Johne's should be culled immediately. Producers should also:

- Provide a clean birth environment for calves, lambs, kids and other ruminants.
- Keep manure from contaminating water sources.
- Thoroughly clean the udder and teats before collecting colostrum to avoid manure contamination.
- Never pool colostrum.

Is this a reportable disease?

No. This is not a reportable disease, but interstate movement of cattle known to be infected with Johne's bacteria is prohibited by state animal health regulations.

Who should be contacted if Johne's is suspected?

Immediately contact a private veterinarian.

For more information:

Texas AgriLife Extension Service—Veterinary Medicine:
http://aevm.tamu.edu

The Center for Food Safety and Public Security:
http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

USDA-APHIS:
http://www.aphis.usda.gov/publications/animal_health

Bovine Spongiform Encephalopathy

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What is bovine spongiform encephalopathy (BSE)?

BSE, also referred to as "mad cow disease," affects the central nervous system of cattle. It was named for the spongy appearance of the affected brain tissue. It is caused by an abnormal form of a protein, called a prion, in the central nervous system.

Is the disease a foreign or emerging/endemic disease?

BSE is a foreign animal disease. Although a few cases have been confirmed in the U.S., the USDA has not declared BSE as an endemic disease.

What animals are affected?

Cattle.

How is it transmitted?

Cattle can become infected with the disease agent by eating contaminated feed. Feed can be contaminated with infected brain, spinal cord, skull, vertebrae and ileum tissues. Meat, blood and bone meal may also contain the prion.

What is the incubation period of the disease?

The incubation period is 2 to 8 years. During that time cattle will have no obvious symptoms. However, once symptoms appear the animal's condition deteriorates quickly and it dies within 2 weeks to 6 months.

What are the symptoms?

There are several different symptoms associated with BSE, including:

- change in temperament such as nervousness or aggression
- abnormal posture
- incoordination
- difficulty rising
- decreased milk production
- loss of body weight despite good appetite

Can people be infected?

Yes. BSE is linked to a fatal human disease, a variant form of Creutzfeldt-Jakob Disease (vCJD). A person may become infected by eating meat products contaminated with the spinal cord or brain matter of infected cattle. Symptoms appear several years later.

Is there a vaccine?

No.

Is this disease preventable?

Yes. USDA-APHIS bans the import of ruminants and ruminant products from countries where BSE occurs. USDA-APHIS also prohibits the use of mammalian protein in cattle feed. The Food Safety and Inspection Service (FSIS) inspects and culls all downer cattle before they are slaughtered. This interlocking system of safeguards is designed to prevent BSE from entering the human and animal food chain.

Is this a reportable disease?

Yes. Downer cattle identified at slaughter or by veterinarians will be tested by the National Veterinary Services lab. Positive animals will be traced back to the farm of origin so the possible source of infection can be identified.

Who should be contacted if BSE is suspected?

Immediately contact a private veterinarian or the state or federal animal health regulatory agency.

For more information:

Texas AgriLife Extension Service—Veterinary Medicine:
http://aevm.tamu.edu

The Center for Food Safety and Public Security:
http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

USDA-APHIS:
http://www.aphis.usda.gov/publications/animal_health

Bovine Trichomoniasis

Angela I. Dement, Extension Assistant for Veterinary Medicine
The Texas A&M System

What is bovine trichomoniasis ("trich")?

Trich is a venereal disease caused by a protozoal parasite. The protozoan infects the reproductive tracts of bulls and cows and can cause infertility and occasional abortions in cows and heifers.

Is the disease a foreign or emerging/endemic disease?

Trich is endemic to the U.S.

What animals are affected?

Cattle.

How is it transmitted?

Transmission occurs by sexual contact when an infected animal mates with a susceptible animal. During the breeding season, trich can spread from cow to cow by a single infected bull. The disease spreads by natural breeding, not artificial insemination. The rate of transmission of the protozoan from male to female is as high 42 percent.

What is the incubation period of the disease?

The incubation period can range from 4 weeks to 4 months before abortions occur.

What are the symptoms?

Infected cows and heifers exhibit symptoms of infertility and abort during the first trimester of pregnancy. Infected bulls may not show any symptoms, or they may have a preputial discharge and odor.

Can people be infected?

No.

Is there a vaccine?

Yes. The vaccine is approved for use in heifers and cows, but not in bulls.

Is this disease preventable?

Yes. Trich can be prevented by implementing biosecurity practices.

- Test non-virgin bulls entering the herd.
- To ensure a clean herd year after year, test all bulls at the end of each breeding season.
- Bulls that tested negative should be retested twice more at weekly intervals to confirm they are truly negative.
- Cull positive bulls.
- Purchase or raise virgin heifers.
- Sexually rest infected heifers and cows for three heat cycles to clear the infection.
- Make sure fences are in good condition to prevent any possible straying.

Is this a reportable disease?

No.

Who should be contacted if trich is suspected?

Immediately contact a private veterinarian.

For more information:

U.C. Davis Extension Veterinary Medicine:
http://www.vetmed.ucdavis.edu

University of Florida:
http://edis.ifas.ufl.edu/VM083

Bovine Tuberculosis

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What is bovine tuberculosis (TB)?

Bovine tuberculosis (TB), caused by a bacterium, is a debilitating respiratory disease of cattle.

Is the disease a foreign or emerging/endemic disease?

TB is an endemic disease in the U.S.

What animals are affected?

TB affects cattle and, rarely, humans.

How is it transmitted?

The most common means of transmission is by inhalation of miniscule droplets released when an infected animal coughs or exhales. For this reason, the risk of exposure increases greatly when animals are crowded or confined in tight spaces. Cattle can become infected when a watering system is contaminated by saliva or other discharges from an infected animal. TB can be transmitted from infected cows to nursing calves.

What is the incubation period of the disease?

The bacteria multiply very slowly (once every 20 hours or so), so it takes many months for symptoms to develop.

What are the symptoms?

Some animals show no symptoms of the disease until they are slaughtered, at which time the entire carcass may be condemned because of lesions in the body. The lesions can be found in any organ or body cavity. In the early stages of the disease, lesions are difficult to find even in post mortem examinations. But in later stages, the nodules or lumps become very evident in the lungs and associated lymph nodes and in the lymph nodes of the head and intestinal tract. Lesions may also appear in the abdominal organs, reproductive organs, mammary glands, superficial body lymph nodes, and skeleton.

Can people be infected?

Very rarely. People are at increased risk if they breathe in contaminated aerosols or drink contaminated raw milk.

Is there a vaccine?

No.

Is this disease preventable?

Yes. One of the best ways to avoid TB is to keep a closed herd. Doing so involves raising your own replacement stock. If this system isn't practical, demand that sellers provide current health information about the herd of origin or buy only from accredited TB-free herds. If health histories are not obtainable, make sure any prospective livestock are tested before purchase. Isolate these animals and have them retested 60 days later by an accredited veterinarian. Keep fences in good repair so animals do not mingle with neighboring

animals. Finally, cooperate with state and federal animal health officials who are investigating the origins of infected animals.

Is this a reportable disease?

Yes. If health inspectors identify a suspect carcass at slaughter they will submit tissues for testing. If TB is diagnosed, officials will attempt to trace the animal's origin back through the market to the originating herd. After the herd is located, the entire herd will be tested. Veterinarians report positive results of live cattle testing. If animals from a herd test positive, efforts are made to eliminate the entire herd. If the entire herd can not be sent to slaughter, it is held under quarantine and tested repeatedly until all infected animals can be eliminated.

Who should be contacted if TB is suspected?

Immediately contact a private veterinarian or the state or federal animal health regulatory agency.

For more information:

Texas AgriLife Extension Service—Veterinary Medicine:
http://aevm.tamu.edu

The Center for Food Safety and Public Security:
http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

USDA-APHIS:
http://www.aphis.usda.gov/publications/animal_health

Bovine Viral Diarrhea

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What is bovine viral diarrhea (BVD)?

BVD is a contagious, febrile viral disease that can cause gastrointestinal and respiratory disorders.

Is the disease a foreign or emerging/endemic disease?

BVD is endemic to the U.S.

What animals are affected?

Cattle. BVD has been reported in wild and domesticated ruminants.

How is it transmitted?

BVD is commonly spread by fecal contamination and by direct contact between uninfected and chronically infected cattle. It can also be transmitted *in utero* and has been transmitted, although rarely, by vectors, wild ruminants and fomites.

What is the incubation period of the disease?

An animal is usually infected 5 to 7 days before symptoms appear.

What are the symptoms?

Symptoms vary with the severity of the disease. In most cases there is a high fever between 104 and 107 degrees F. In non-acute cases cattle show depression, lower milk production, increased respiratory rate and diarrhea. In acute cases the fever is as high as 107 degrees F and there are oral lesions, severe diarrhea and dehydration. The GI tract becomes inflamed and may have ulcerations and hemorrhages. Fetal infection may result in aborted or mummified fetuses, still births, or premature or weak newborn calves. Calves infected *in utero* may appear either healthy or sick, but are persistently infected carriers.

Can people be infected?

No.

Is there a vaccine?

Yes.

Is this disease preventable?

Yes. Using biosecurity protocols within an operation will reduce the risk of this disease entering or spreading on the premises. The proper, routine disinfection of equipment and tools reduces the chance of infection. All new animals should be quarantined (for 30 days), tested and vaccinated. Sick animals should be isolated to keep the disease from spreading. Animals should not drink or eat from contaminated feed or water sources. Ear notch testing is used to identify persistently infected calves, and blood testing can identify animals that have been vaccinated against or exposed to the virus.

Is this a reportable disease?

No.

Who should be contacted if BVD is suspected?

Immediately contact a private veterinarian.

For more information:

The Center for Food Safety and Public Security:
http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

Brucellosis

Angela I. Dement, Extension Assistant for Veterinary Medicine
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What is brucellosis?

Brucellosis is a reproductive disease caused by a bacterium. Brucellosis in cattle is commonly called Bang's disease. There are six different strains, each of which may contain several different biovars.

Is the disease a foreign or emerging/endemic disease?

Brucellosis is endemic to the U.S.

What animals are affected?

Brucellosis can infect many different animals, depending on the strain. Animals commonly infected include cattle, sheep, goats, domestic and feral pigs, dogs, elk, bison and the American wood rat.

How is it transmitted?

The bacteria can be transmitted by:

- semen
- reproductive fluids
- placentas
- aborted fetuses
- milk and urine

Susceptible animals can contract the bacteria by ingesting milk from an infected animal or by coming in contact with contaminated fluids or infected tissues.

What is the incubation period of the disease?

It takes 14 to 285 days before symptoms appear or laboratory tests are positive.

What are the symptoms?

Symptoms in cattle include:

- abortions (usually in the second or third trimester)
- stillbirths or weak calves at birth
- retained placentas
- testicular abscesses
- decreased milk production
- arthritis

Symptoms in sheep and goats are similar to those in cattle, but they may also exhibit orchitis and epididymitis. Horses will exhibit fistulous withers or poll evil.

The most common symptom in swine is abortion, which can occur any time during pregnancy. Other symptoms include:

- body abscesses
- posterior paralysis
- swollen joints
- lameness

Many other animals can contract brucellosis, but they are referred to as "dead-end hosts." This means the animals can become infected but usually do not spread the infection.

Can people be infected?

Yes. People can contract the disease by coming into contact with infected fluids or consuming unpasturized milk.

Is there a vaccine?

Yes. Vaccines are available for cattle in endemic areas. Veterinarians must administer the vaccines. In the U.S., the vaccine used in heifer calves is Brucella strain RB51. It is about 80 percent effective if used appropriately. Calves should be vaccinated at 4 to 12 months of age.

Is this disease preventable?

Yes. Vaccinating animals is not the only way to prevent brucellosis. As with many other diseases, good sanitation and good management practices help reduce the chance of brucellosis being introduced into a herd. Biosecurity measures are important as well. New cattle more than 12 months old should be isolated and tested at the time of purchase, 30 days after purchase, and in 60 days after purchase. They should remain in isolation until all testing is complete.

Is this a reportable disease?

Yes. It should be reported immediately to state or federal animal and public health officials. If an animal is found to carry the disease, its herd of origin will be determined and quarantine, testing and slaughter procedures will be enforced.

Who should be contacted if brucellosis is suspected?

Immediately contact a private veterinarian or the state or federal animal health regulatory agency.

For more information:

Texas AgriLife Extension Service—Veterinary Medicine:
http://aevm.tamu.edu

The Center for Food Safety and Public Security:
http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

Texas Department of Health , Zoonosis Division:
http://www.dshs.state.tx.us/idcu/health/zoonosis

USDA-APHIS:
http://www.aphis.usda.gov/publications/animal_health

TAHC:
http://www.tahc.state.tx.us/animal_health/

Caseous Lymphadenitis

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What is caseous lymphadenitis (CL)?

CL is a zoonotic, bacterial infection of the lymph nodes and internal organs. CL is the leading cause of condemnation of mature sheep carcasses and is also a significant cause of condemnation of yearling and lamb carcasses. It has a large economic impact on the sheep and goat meat market.

Is the disease a foreign or emerging/endemic disease?

CL is endemic to the U.S.

What types of animals are affected?

Sheep and goats. Cases in cattle, horses, swine, wild ruminants and fowl also have been reported.

How is it transmitted?

The causative bacteria are shed from the skin abscesses, pus and feces of infected animals. It also spreads through the inhalation of aerosol droplets when animals are closely confined. Susceptible animals are infected through superficial skin wounds or mucous membranes. It can be spread by using contaminated shearing equipment. The bacteria can survive for a long time in shavings, hay and soil. CL can be introduced into a flock or herd by new animals that appear healthy but are infected.

What is the incubation period of the disease?

CL has a long incubation period of 2 to 6 months.

What are the symptoms?

Symptoms depend on the site of the infection. Abscesses form on the skin at the site of the infection, but as the disease spreads throughout the body via the lymphatic system abscesses may appear in lymph nodes under the skin and in internal organs. Abscesses can be confused with other diseases and may not be noticed until slaughter.

Can people be infected?

Yes.

Is there a vaccine?

Yes.

Is this disease preventable?

The main way this disease spreads is the lack of good sanitation practices. Shearing equipment should be disinfected after each animal and the entire facility routinely disinfected. Cull or isolate animals before abscesses rupture and separate kids and lambs from older animals.

Is this a reportable disease?

No.

Who should be contacted if CL is suspected?

Immediately contact a private veterinarian.

For more information:

The Center for Food Safety and Public Security:
http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

Chronic Wasting Disease

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What is chronic wasting disease (CWD)?

CWD is a fatal central nervous system disorder that is contagious in captive and free-roaming deer and elk. It is caused by a prion protein similar to the one that causes bovine spongiform encephalopathy in cattle and scrapie in sheep and goats.

Is the disease a foreign or emerging/endemic disease?

CWD is endemic to the U.S. It is found in parts of Colorado, Wyoming, Nebraska, South Dakota, Kansas, Utah, New Mexico, West Virginia, New York, Illinois and Wisconsin.

What animals are affected?

Deer and elk.

How is it transmitted?

The most probable route of transmission is direct contact with infected animals or contact with the contaminated environment. The route of transmission is likely oral or transplacental.

What is the incubation period of the disease?

Once an animal becomes infected with CWD, the incubation period is at least 16 months.

What are the symptoms?

As the name implies, animals infected with CWD lose weight over time and become very emaciated. Behavioral changes include lowering of the head and becoming depressed and anti-social. Some animals may become hyper-excitable and extremely nervous.

Can people be infected?

No.

Is there a vaccine?

No.

Is this disease preventable?

Yes. There is a surveillance program for CWD in many states. The USDA is helping state wildlife management programs monitor and control CWD. Some affected herds have been placed under restriction and quarantined or have been depopulated. If you are importing deer or other cervids, try to purchase from herds that participate in the USDA- APHIS Herd Certification Program.

Is this a reportable disease?

Yes. CWD is reportable to state or federal animal health regulatory agencies.

Who should be contacted if CWD is suspected?

Immediately contact a private veterinarian or the state or federal animal health regulatory agency.

For more information:

Chronic Wasting Disease Alliance:
http://www.cwd-info.org/index.php

The Center for Food Safety and Public Security:
http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

Classical Swine Fever

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What is classical swine fever (CSF)?

CSF, or hog cholera, is a highly contagious, fatal, viral disease.

Is the disease a foreign or emerging/endemic disease?

CSF is a foreign animal disease.

What animals are affected?

Domestic and wild swine.

How is it transmitted?

CSF is usually transmitted by direct contact with infected swine. The virus also can spread by feeding contaminated, uncooked meat garbage to swine. Aerosol transmission can occur in high-density confinement areas. CSF also can be transmitted by fomites, traffic and insects.

What is the incubation period of the disease?

The incubation period varies from 2 to 14 days.

What are the symptoms?

There are three different forms of the disease: acute, chronic and mild. Acute symptoms may include a high fever; anorexia; purple discoloration of the ears, thighs and abdomen; constipation followed by diarrhea; and death within 5 to 15 days. In chronic infections, symptoms may include dullness, anorexia, fever and diarrhea for up to a month. Animals may appear to recover, then relapse and die. The mild form causes occasional fever and loss of appetite, with piglets affected at birth.

Can people be infected?

No.

Is there a vaccine?

Yes.

Is this disease preventable?

Yes. Standard biosecurity practices will help keep herds disease free. The CSF virus is very unstable in the environment, so disinfection is a high priority in controlling its spread. It does not survive in dry environments or sunlight.

Is this a reportable disease?

Yes. It is reportable to your state animal health regulatory agency. If an outbreak occurs, infected animals will be slaughtered and the premises will be quarantined. Officials may vaccinate nearby animals to help control the outbreak.

Who should be contacted if CSF is suspected?

Immediately contact a private veterinarian or the state or federal animal health regulatory agency.

For more information:

The Center for Food Safety and Public Security:
http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

Contagious Bovine Pleuropneumonia

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The Texas A&M System

What is contagious bovine pleuropneumonia (CBPP)?

CBPP is a very slow-acting, infectious, bacterial disease that affects the lungs and joints of cattle.

Is the disease a foreign or emerging/endemic disease?

CPBB is a foreign animal disease.

What animals are affected?

Cattle.

How is it transmitted?

Cattle that come into close proximity with infected cattle can become infected by inhalation. High-density populations of cattle are at a higher risk than cattle in low-density populations, such as those on rangeland.

What is the incubation period of the disease?

Animals usually show symptoms after an incubation period of 20 to 83 days, but symptoms may not appear until 6 months after exposure.

What are the symptoms?

Acute signs of infection include a spiked fever, dry coughing after exercise, decreased production, and pain from breathing normally. The animal's head is lowered with mouth open and neck extended to aide breathing. The mortality rate is high, with death occurring 2 to 5 weeks after symptoms appear.

Cattle with very mild cases do not exhibit symptoms but are carriers and continue to spread the disease. Some mild cases develop severe pneumonia that causes death in 1 to 3 weeks.

Can people get the disease?

No.

Is there a vaccine?

Yes.

Is this disease preventable?

Yes. Producers can use standard biosecurity practices to help keep herds disease free. Producers should not allow visitors on the premise if they have been in an area that has CBPP.

Is this a reportable disease?

Yes. Once producers contact a veterinarian and a positive diagnosis is made, cattle that test positive will be quarantined, along with other cattle exhibiting strange behavior or symptoms, to prevent the spread of BPP to the rest of the herd. Any animal that is infected or has been in contact with infected animals should be slaughtered and carcasses disposed of properly. Properly disinfect anything that comes into contact with animals.

Who should be contacted if CBPP is suspected?

Immediately contact a private veterinarian or the state or federal animal health regulatory agency.

For more information:

USDA-APHIS:
http://www.aphis.usda.gov/publications/animal_health

The Center for Food Safety and Public Health:
http://www.cfsph.iastate.edu/DiseaseInfo/factsheets.htm

Contagious Ecthyma

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What is contagious ecthyma (sore mouth)?

Sore mouth is an acute, zoonotic, viral infection that affects all sheep and goat populations. It can be found worldwide and occurs most often in warm weather and during the winter in close confinement facilities such as feedlots.

Is the disease foreign or endemic?

Sore mouth is endemic to the U.S.

What animals are affected?

Sheep and goats.

How is it transmitted?

Sore mouth is transmitted directly (for example, nose-to-nose contact) and indirectly (touching contaminated objects). Lambs can become infected when nursing infected ewes.

What is the incubation period of the disease?

The incubation period is 2 to 3 days.

What are the symptoms?

Animals have blisters, abscesses and scabs around the mouth, nose and eyes. Nursing ewes may have lesions around the teats and lower legs. Infected lambs and kids may have trouble nursing and need to be bottle fed.

Can people be infected?

Yes.

Is there a vaccine?

Yes.

Is this disease preventable?

Yes. Biosecurity practices significantly reduce the transmission of the disease. Quarantine new animals for at least 21 days. Reduce the risk of mouth trauma (and eliminate an entry site for the virus) by removing thistle and harsh brush from pastures. Do not take animals known to be infected to shows or fairs. When exhibiting a healthy animal at a show, assist the judge by opening your animal's mouth to reduce the chance of inadvertently spreading sore mouth.

Is this disease reportable?

No. Sore mouth is not reportable by national or international standards, but may be reportable to state animal health authorities.

Who should be contacted if sore mouth is suspected?

Immediately contact a private veterinarian.

For more information:

The Center for Food Safety and Public Health:
http://www.cfsph.iastate.edu/FastFacts/pdfs/contagious_ecthyma_F.pdf

The Merck Veterinary Manual:
http://www.merckvetmanual.com/mvm/index.jsp?cfile=htm/bc/71000.htm

Equine Encephalomyelitis

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The Texas A&M System

What is equine encephalomyelitis?

Equine encephalomyelitis is a zoonotic, viral disease. It can be caused by a variety of viruses, but those of primary concern are eastern equine encephalomyelitis (EEE), western equine encephalomyelitis (WEE), and Venezuelan equine encephalomyelitis (VEE). EEE is commonly found in Eastern Canada, all states east of the Mississippi River, Texas, Arkansas, Minnesota, South Dakota and the Caribbean Islands. WEE is found in Western Canada, all states west of the Mississippi River, Mexico and South America. VEE is endemic to the subtropics and tropical areas of Mexico and South America.

Is the disease a foreign or emerging/endemic disease?

Equine encephalomyelitis is endemic to the U.S.

What animals are affected?

Horses, but birds and small rodents act as reservoirs.

How is it transmitted?

The primary route of transmission is by vectors, usually mosquitoes. Birds and small rodents carry the virus and act as reservoirs for it. Mosquitoes pick up the virus when they feed and then transmit it to horses.

What is the incubation period of the disease?

Symptoms become apparent after 5 days.

What are the symptoms?

The virus attacks the central nervous system and may cause death in 2 to 3 days. Symptoms include:

- paralysis
- head pressing
- stiffness
- tremors
- seizures
- colic
- diarrhea
- death

Can people be infected?

Yes.

Is there a vaccine?

Yes.

Is this disease preventable?

Yes. The best way to protect horses is to practice biosecurity, which includes:

- vaccinating animals
- draining standing water
- clearing tall brush
- controlling vector populations
- putting animals in stalls at night

Is this a reportable disease?

Eastern, western and Venezuelan equine encephalomyelitis are reportable.

Who should be contacted if encephalomyelitis is suspected?

Contact a private veterinarian or state or federal animal health regulatory agency immediately.

For more information:

The Center for Food Safety and Public Health:
http://www.cfsph.iastate.edu/Factsheets/pdfs/easter_wester_venezuelan_equine_encephalomyelitis.pdf

Equine Infectious Anemia

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What is equine infectious anemia (EIA)?

EIA is a blood-borne, viral disease that causes severe anemia and suppresses the immune system in horses. Once a horse is infected it becomes a carrier for life.

Is the disease a foreign or emerging/endemic disease?

EIA is an endemic disease in the U.S.

What animals are affected?

Horses, donkeys and zebras.

How is it transmitted?

EIA is transmitted between horses by biting insects, primarily deer flies and horse flies. Animals are more likely to become infected with EIA during the summer and in swampy, very humid areas. The virus can also spread by sharing blood-contaminated needles or surgical instruments between animals. Foals can become infected *in utero*.

What is the incubation period of the disease?

The incubation period is usually 1 to 3 weeks, but can be as long as 3 months.

What are the symptoms?

EIA may be an acute or chronic disease or an inapparent infection. Symptoms may include fever, jaundice, blood-stained feces, severe anemia, weight loss, edema, small hemorrhages in mucous membranes, and death. Symptoms may appear periodically in cases of inapparent infections. Animals that recover will be infected their entire lives.

Can people be infected?

No.

Is there a vaccine?

No.

Is this disease preventable?

Yes. To prevent EIA you should:

- Test horses annually.
- Isolate or euthanatize infected horses.
- Change needles between horses.
- Control horse flies and deer flies.
- Maintain a 200-yard buffer between horses that have tested negative and untested horses.

Is this a reportable disease?

Yes. EIA is a reportable disease in some states. Check with your veterinarian to determine if EIA is reportable in your state. If a horse tests positive for EIA, that animal has to be permanently isolated from other horses or euthanatized.

Who should be contacted if EIA is suspected?

Immediately contact a private veterinarian or the state or federal animal health regulatory agency.

For more information:

The Center for Food Safety and Public Security:
http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

Equine Influenza

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What is equine influenza?

Equine influenza is a contagious, viral disease that affects the upper respiratory system.

Is the disease a foreign or emerging/endemic disease?

Equine influenza is endemic to the U.S.

What animals are affected?

Horses.

How is it transmitted?

The most common means of transmission are aerosol, fomite and direct contact. A susceptible horse may become infected by direct contact or by inhaling the virus in aerosol droplets. Fomites, such as tack, equipment and people, can play a major role in transmitting the disease also.

What is the incubation period of the disease?

The incubation period can range from 1 to 3 days.

What are the symptoms?

Symptoms for equine influenza include:

- dry hacking cough
- high fever
- nasal discharge
- depression
- anorexia
- enlarged lymph nodes
- pneumonia

A laboratory confirmation is needed to distinguish equine influenza from other respiratory diseases.

Is there a vaccine?

Yes.

Can people be infected?

No.

Is this disease preventable?

Yes. Vaccination is one way to prevent equine influenza. Others include isolating all new and returning horses for up to 2 weeks, isolating animals sick with a respiratory disease from all other horses, and disinfecting any equipment and tack that may have come into contact with an infected horse.

Is this a reportable disease?

No.

Who should be contacted if equine influenza is suspected?

Immediately contact a private veterinarian.

For more information:

The Merck Veterinary Manual:
http://www.merckvetmanual.com/mvm/index.jsp

Exotic Newcastle Disease

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The Texas A&M System

What is exotic Newcastle disease (END)?

END, previously known as velogenic viscerotropic Newcastle disease (VVND), is a viral disease that is usually fatal. It is one of the most infectious poultry diseases in the world.

Is the disease a foreign or emerging/endemic disease?

END is a foreign animal disease. Outbreaks in the U.S. have been controlled and eradicated.

What animals are affected?

END affects all species of birds, including chickens and turkeys.

How is it transmitted?

END is transmitted primarily when healthy birds come into direct contact with infected birds. Birds excrete the virus in their feces and from their noses, mouths and eyes. Indirect transmission can also occur mechanically when the virus is picked up on clothing and shoes and spread from farm to farm.

What is the incubation period of the disease?

The incubation period varies from 2 to 15 days, depending on the strain and the susceptibility of the birds.

What are the symptoms?

Infected birds sometimes die before they exhibit any symptoms. If symptoms appear, they may include:

- respiratory—sneezing, gasping for air, nasal discharge, coughing
- digestive—greenish, watery diarrhea
- nervous—depression, muscular tremors, drooping wings, twisting of head and neck, circling, complete paralysis
- reproductive—partial to complete drop in egg production, thin-shelled eggs
- swelling of the tissues around the eyes and neck

Can people be infected?

No. This virus affects only birds.

Is there a vaccine?

Yes.

Is this disease preventable?

Yes. Producers should maintain good biosecurity practices.

Is this a reportable disease?

Yes. To eradicate END, it is critical to rapidly destroy the infected flock(s) and impose a strict quarantine for surrounding premises.

Who should be contacted if END is suspected?

Immediately contact a private veterinarian or the state or federal animal health regulatory agency.

For more information:

Texas AgriLife Extension Service—Veterinary Medicine:
http://aevm.tamu.edu

The Center for Food Safety and Public Security:
http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

USDA-APHIS:
http://www.aphis.usda.gov/publications/animal_health

TAHC:
http://www.tahc.state.tx.us/news/brochures/END.pdf

Foot and Mouth Disease

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What is foot and mouth disease (FMD)?

FMD is a severe, highly infectious, viral disease of cloven-hoofed animals. Although usually not fatal, diseased nursing animals may die, growing animals have lower weight gains, and adult animals gain less weight and produce less milk.

Is the disease a foreign or emerging/endemic disease?

FMD is a foreign animal disease.

What animals are affected?

Cloven-hoofed livestock such as cattle, sheep, goats, swine and deer are highly susceptible to the virus.

How is it transmitted?

The FMD virus is transmitted by direct and indirect routes. The virus is shed from infected animals in blister fluid, milk and semen and can then be transmitted to susceptible animals. It can also be transmitted by aerosol droplets, clothing, shoes and vehicle tires.

What is the incubation period of the disease?

Animals show symptoms after an incubation period of 1 to 8 days.

What are the symptoms?

Symptoms are similar to other diseases such as vesicular stomatitis, bluetongue, bovine viral diarrhea and swine vesicular disease. Veterinarians must test to differentiate between these diseases. The most noticeable symptom is blisters or erosions on the tongue and lips, in the mouth, on the teats, and between hooves.

Can people be infected?

No.

Is there a vaccine?

Yes. In the event of an FMD outbreak, there is a vaccine that will help control the spread of the disease. There are several different types and subtypes of FMD virus and the vaccine has to match both to be effective.

Is this disease preventable?

Yes. Livestock producers should follow a standard biosecurity management plan. Many preventive measures are in place to help protect the U.S. from an outbreak of FMD, and in fact, the U.S. has been FMD-free since 1929. To help maintain that status, any unusual animal health symptoms should be reported promptly to a veterinarian or to the state or federal animal regulatory agency. A prompt diagnosis is necessary to eradicate the disease. The USDA prohibits the entry of live animals and animal products from areas known to be infected with FMD.

Is this a reportable disease?

Yes. If confirmed, USDA-APHIS would move quickly to trace the origins of infected or exposed animals, establish and maintain FMD quarantines, and destroy infected and exposed animals.

Who should be contacted if FMD is suspected?

Immediately contact a private veterinarian or the state or federal animal health regulatory agency.

For more information:

Texas AgriLife Extension Service—Veterinary Medicine:
http://aevm.tamu.edu

The Center for Food Safety and Public Security:
http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

USDA-APHIS:
http://www.aphis.usda.gov/publications/animal_health

Texas Animal Health Commission:
http://www.tahc.state.tx.us/news/brochures/FMD_Travel.pdf

National Pork Board:
http://www.pork.org/producers/security%20Biosecurity/biosecurity%20book.pdf

Leptospirosis

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What is leptospirosis ("lepto")?

Lepto, caused by a bacterial spirochete, is a zoonotic, febrile disease that causes abortion and blood, liver and kidney disorders. Some common names for lepto are redwater, mud fever and Weil's syndrome.

Is the disease a foreign or emerging/endemic disease?

Lepto is endemic to the U.S.

What animals are affected?

Domestic and wild animals.

How is it transmitted?

Lepto bacteria are shed in the urine of infected animals and transmitted between animals by direct contact or orally when animals eat contaminated food and water. It can also be aerosolized from urine and water. The bacterium usually enters the body through mucous membranes and open wounds. It can penetrate skin that has been in water for long periods of time.

What is the incubation period of the disease?

The incubation period varies among animals, but ranges from 4 to 30 days. Abortions may occur within 3 to 10 weeks of infection in cattle and within 15 to 30 days of infection in swine.

What are the symptoms?

Symptoms can vary among species. The most common symptoms are:

- fever
- anorexia
- decreased performance
- jaundice
- blood in the urine
- anemia

Pregnant females may have abortions, still births, or weak newborns. They may also have decreased milk quality and production. This disease can be asymptomatic and fatal.

Can people be infected?

Yes.

Is there a vaccine?

Yes.

Is this disease preventable?

Yes. Biosecurity measures will reduce the risk of disease entering the premises. Isolate and test new arrivals and properly disinfect equipment and tools on a routine basis. Also vaccinate new animals and isolate sick animals to prevent the disease from spreading. Drain standing water to limit the growth of the spirochete.

Is this a reportable disease?

No.

Who should be contacted if lepto is suspected?

Immediately contact a private veterinarian.

For more information:

The Center for Food Safety and Public Security:
http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

Lumpy Skin Disease

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What is lumpy skin disease (LSD)?

Lumpy skin disease (LSD) is an infectious, viral disease that causes eruptive nodules in the skin. This disease causes economic losses from decreased milk production, infertility, poor growth, animal death and damaged hides.

Is the disease a foreign or emerging/endemic disease?

LSD is a foreign animal disease.

What animals are affected?

Cattle.

How is it transmitted?

The disease is usually transmitted by mosquito and fly vectors. The virus is present in lesions, saliva, nasal discharges, milk and semen, but direct contact is considered a minor route of transmission.

What is the incubation period of the disease?

Animals show symptoms after an incubation period of 2 to 5 weeks.

What are the symptoms?

Cattle infected with LSD may show symptoms or have inapparent infections. Symptoms may include:

- fever
- skin nodules on or in the body
- swollen lymph nodes
- depression
- excessive salivation
- anorexia
- lameness

Can people be infected?

No.

Is there a vaccine?

Yes.

Is this disease preventable?

Yes. To prevent the disease, control insect vectors, drain standing water, isolate all new animals for at least 2 weeks, and disinfect equipment, facilities and vehicles regularly.

Is this a reportable disease?

Yes. If confirmed, USDA-APHIS will move quickly to trace the origins of infected or exposed animals and establish a quarantine zone. Exposed and infected animals will be destroyed. During an outbreak, it is very important to control insects to minimize the spread of the disease.

Who should be contacted if LSD is suspected?

Immediately contact a private veterinarian or the state or federal animal health regulatory agency.

For more information:

The Center for Food Safety and Public Health:
http://www.cfsph.iastate.edu/Factsheets/pdfs/lumpy_skin_disease.pdf

Nipah Virus

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What is Nipah virus?

Nipah virus, also known as porcine respiratory and encephalitis syndrome (PRES), is a zoonotic, viral disease that affects the respiratory and nervous systems.

Is the disease a foreign or emerging/endemic disease?

Nipah virus is a foreign animal disease.

What animals are affected?

Swine, dogs and goats. Antibodies of the virus have been reported in horses, goats, dogs and cats. Sheep may also be affected.

How is it transmitted?

The virus may be transmitted to a susceptible animal that has direct contact with secretions or excretions of an infected animal. It is also transmitted by fomites. Aerosol transmission can occur in swine but is not considered a major route of transmission.

What is the incubation period of the disease?

Animals show symptoms after an incubation period of 7 to 14 days.

What are the symptoms?

Most infected swine are asymptomatic. Piglets have a higher mortality rate and usually show respiratory signs rather than neurological signs. Some other symptoms include:

- fever
- open mouth with rapid, labored breathing
- barking cough
- trembling
- uncoordinated gait
- increased salivation and nasal discharge
- abortion
- pharyngeal muscle paralysis

Can people be infected?

Yes.

Is there a vaccine?

No.

Is this disease preventable?

Yes. The disease can be prevented by maintaining biosecurity practices, such as not importing pork products from areas known to have the Nipah virus, maintaining good fences to keep animals out, and monitoring visitors.

Is this a reportable disease?

Yes. If confirmed, USDA-APHIS will move quickly to trace the origins of infected or exposed animals and establish a quarantine zone. Exposed and infected animals will be destroyed.

Who should be contacted if Nipah virus is suspected?

Immediately contact a private veterinarian or the state or federal animal health regulatory agency.

For more information:

The Center for Food Safety and Public Health:
http://www.cfsph.iastate.edu/Factsheets/pdfs/nipah.pdf

Potomac Horse Fever

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What is potomac horse fever (PHF)?

PHF is a rickettsial agent that causes diarrhea in infected animals. It was first described in horses that were close to the Potomac River in Maryland.

Is the disease a foreign or emerging/endemic disease?

PHF is endemic to the U.S.

What animals are affected?

Horses.

How is it transmitted?

PHF is most often transmitted orally. Horses may come into contact with fecal-contaminated tack, feed, water and hay. There is likely a vector, since PHF can be transmitted via blood inoculation, but the vector has not yet been identified. Ticks, fleas or lice are suspected. Freshwater snails may be carriers of the bacteria.

What is the incubation period of the disease?

The incubation period is 9 to 12 days.

What are the symptoms?

Symptoms of PHF include:

- depression
- lethargy
- loss of appetite
- mild colic
- diarrhea
- toxemia
- laminitis
- abortion

Is there vaccine?

Yes.

Can people be infected?

No.

Is this disease preventable?

Yes. Biosecurity measures will help keep PHF from horse herds. For example:

- Vaccinate horses.
- Keep feed, water and equipment free of fecal contamination.
- Reduce the snail population.
- Use insect sprays to keep insects from horses.
- Isolate all new and returning animals for up to 2 weeks.

Is this a reportable disease?

No.

Who should be contacted if PHF is suspected?

Immediately contact a private veterinarian.

For more information:

University of Minnesota-College of Veterinary Medicine:
http://www.cvm.umn.edu/newsandevents/facts/Potomac_Horse_Fever.html

The Merck Veterinary Manual:
http://www.merckvetmanual.com/mvm/index.jsp

Pseudorabies

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What is pseudorabies?

Pseudorabies, also known as Aujeszky's disease or "mad itch," is a potentially fatal, viral disease that affects the central nervous system (CNS) of domestic and wild animals.

Is the disease a foreign or emerging/endemic disease?

Pseudorabies is an emerging/endemic disease.

What animals are affected?

Domestic and feral swine are the natural reservoirs. Abnormal hosts are cattle, sheep, goats, cats, dogs, raccoons, opossums, skunks and rodents.

How is it transmitted?

Direct transmission of the virus is by fecal-oral or nose-to-nose contact or by inhalation of the aerosolized virus.

What is the incubation period of the disease?

The incubation period for swine is 1 week, but they could shed the virus 2 to 5 days after becoming infected. Other animals are dead-end hosts and live only 2 to 3 days after becoming infected.

What are the symptoms?

In young piglets there are few if any symptoms, but the mortality rate is as high as 100 percent. Some signs in young pigs include fever, weight loss, anorexia, trembling, paddling, or any general signs of CNS disease such as incoordination, temperament changes, paralysis, unsteady gait and convulsions. Weaned pigs exhibit more respiratory illness and signs such as fever, anorexia, weight loss, dyspnea, coughing and sneezing. Older or adult swine may be unaffected by the virus or exhibit only respiratory illness. Infected pregnant sows may abort or reabsorb fetuses. Pigs born to infected sows are weak with trembling. In the incidental animals, pseudorabies causes a febrile, itch condition displayed by lethargy and rubbing.

Can people be infected?

No.

Is there a vaccine?

Yes.

Is this disease preventable?

Yes. Psuedorabies can be managed with good biosecurity practices. Keeping feral hogs off the property reduces the risk of livestock coming into contact with the virus. It is also important to use proper sanitation procedures to prevent the disease from spreading.

Is this a reportable disease?

Yes. It should be reported immediately to state or federal animal health officials. There is an eradication program in place in the U.S. Should a herd become infected, it will be quarantined and depopulated and the source of the infection will be determined.

Who should be contacted if pseudorabies is suspected?

Immediately contact a private veterinarian or the state or federal animal health regulatory agency.

For more information:

USDA-APHIS:
http://www.aphis.usda.gov/publications/animal_health

Queensland Fever

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What is Queensland fever (Q fever)?

Q fever is a highly contagious, zoonotic, rickettsial disease that causes influenza-like symptoms.

Is the disease a foreign or emerging/endemic disease?

Q fever is endemic to the U.S.

What animals are affected?

Sheep, goats and cattle.

How is it transmitted?

Aerosol transmission is the most common way for animals to become infected. Animals may also get the disease from direct contact with contaminated milk, placenta, reproductive discharges, feces, urine and semen. Vectors such as ticks also play a role in spreading the disease in wildlife.

What is the incubation period of the disease?

The incubation period is variable.

What are the symptoms?

Some infected animals may be asymptomatic. The most common symptoms include:

- abortions (late in pregnancy)
- stillbirths
- weak offspring
- placenta retention
- anorexia
- fever

Can people be infected?

Yes.

Is there a vaccine?

No.

Is this disease preventable?

Yes. To prevent Q fever from entering your herd:

- Reduce vector populations.
- Keep wildlife off the property.
- Quarantine all returning and new animals coming into herd.
- Quarantine any sick animals.
- Disinfect areas (especially birthing areas) and equipment regularly with 10 percent bleach.

Is this a reportable disease?

Yes.

Who should be contacted if Q fever is suspected?

Immediately contact a private veterinarian or the state or federal animal health regulatory agency.

For more information:

The Center for Food Safety and Public Health:
http://www.cfsph.iastate.edu/Factsheets/pdfs/q_fever.pdf

Rabbit Hemorrhagic Disease

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What is rabbit hemorrhagic disease (RHD)?

RHD is a highly contagious, viral disease that affects both commercial and domestic rabbits. It causes about 90 percent mortality; surviving rabbits shed the virus for several weeks.

Is the disease a foreign or emerging/endemic disease?

RHD is a foreign animal disease.

What animals are affected?

RHD affects both commercial and domestic rabbits. The virus does not appear to infect jackrabbits or cottontails.

How is it transmitted?

Transmission occurs when susceptible rabbits are exposed to infected rabbits, rodents or rabbit products, or to contaminated objects. Infected rabbits shed the virus in urine, feces and eye discharges. Rabbits that survive are carriers and may continue to shed the virus for up to 4 weeks.

What is the incubation period of the disease?

The incubation period is 24 to 48 hours.

What are the symptoms?

The most notable symptom of this disease is the sudden death of many rabbits. RHD causes massive blood clots, which sometimes result in a bloody, foamy, nasal discharge. Other symptoms may include:

- depression
- hesitance to move
- fever (about 105 degrees F)
- neurological symptoms such as excitement, incoordination, paddling and abnormal position of the head
- anorexia

Can people be infected?

No.

Is there a vaccine?

Yes. A vaccine is available in some countries, but not in the U.S. The vaccine may help rabbits survive but does not keep them from shedding the virus for 4 weeks.

Is this disease preventable?

Yes. Producers should implement a standard biosecurity management plan, such as:

- avoiding contact between your rabbits and products from countries where RHD is endemic
- isolating new rabbits for at least 5 days to ensure that they are not infected
- not moving a dead animal until the veterinarian arrives

Is this a reportable disease?

Yes. If a veterinarian diagnoses a case of RHD, it must be reported immediately to state or federal animal regulatory officials so they can control/eradicate the outbreak by implementing quarantines.

Who should be contacted if RHD is suspected?

Immediately contact a private veterinarian or the state or federal animal health regulatory agency.

For more information:

Texas AgriLife Extension Service—Veterinary Medicine:
http://aevm.tamu.edu

The Center for Food Safety and Public Security:
http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

USDA-APHIS:
http://www.aphis.usda.gov/publications/animal_health

Rabies

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What is rabies?

Rabies, caused by a virus, affects the central nervous system of warm-blooded animals. It is sometimes referred to as hydrophobia. Rabies is considered to be a disease of over-populated wild animal species.

Is the disease a foreign or emerging/endemic disease?

Rabies is endemic to the U.S.

What animals are affected?

Rabies can affect any warm-blooded animal and it is fatal if untreated. Species most commonly affected are skunks, bats, coyotes, bats and foxes. Skunks shed more rabies virus in their saliva than any other species.

How is it transmitted?

The rabies virus is transmitted in the saliva and blood of infected animals. When an infected animal bites or scratches another animal and saliva is deposited on the wound, the virus enters the body and migrates to the brain by traveling up peripheral nerves.

What is the incubation period of the disease?

The incubation period varies from 3 weeks to 7 months, depending on the species of the animal, the virulence of the strain of virus, the age of the victim, and the site of the wound.

What are the symptoms?

The best-known symptom is excessive salivation. Other symptoms are:

- anorexia
- apprehension
- nervousness
- irritability
- hyperexcitability
- ataxia (failure of muscle coordination)
- altered temperament

Once an animal exhibits symptoms, death usually occurs within 3 to 10 days.

Can people be infected?

Yes. Transmission may occur if an infected animal scratches or bites a person. People who have been bitten by or had contact with a rabid animal should contact a physician to determine if post-exposure prophylactic measures are required.

Is there a vaccine available?

Yes. Animals should be routinely vaccinated to build immunity against the virus.

Is this disease preventable?

Yes. The most effective preventive measure is vaccination. People should not adopt wild animals or allow bats to take up residence in areas where there are people or domestic animals.

Is this a reportable disease?

Yes. It should be reported immediately to state public health officials. If an animal is suspected of having rabies (i.e., it bites somebody) it should be quarantined for 10 days. Domestic animals that have been in contact with a rabid animal should be destroyed immediately or, if they have been vaccinated, quarantined for 45 to 90 days.

Who should be contacted if rabies is suspected?

Immediately contact a private veterinarian or the state animal health department. Rabies can not be diagnosed in live animals. The head and brain of the animal must be tested.

For more information:

Texas AgriLife Extension Service—Veterinary Medicine:
http://aevm.tamu.edu

The Center for Food Safety and Public Security:
http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

CDC:
http://www.cdc.gov/healthypets/diseases/rabies.htm

Texas Department of Health Services:
http://www.dshs.state.tx.us/idcu/health/zoonosis/disease

Rhinopneumonitis

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What is rhinopneumonitis ("rhino")?

Rhinopneumonitis is a viral disease that causes respiratory problems in infected horses.

Is the disease a foreign or emerging/endemic disease?

Rhino is endemic to the U.S.

What animals are affected?

Horses.

How is it transmitted?

Rhino can spread by aerosol, direct and fomite transmission. Coughing horses can infect susceptible horses by aerosol droplets containing the virus. Nose-to-nose contact can transfer nasal discharge carrying the virus. Tack used on an infected horse and then used on a susceptible horse can spread the disease as well.

What is the incubation period of the disease?

The incubation period is 2 to 10 days.

What are the symptoms?

Symptoms may appear "flu-like," and include nasal discharge, coughing and swollen lymph nodes. Infected horses may have fever of 102 to 107 degrees F that lasts 1 to 7 days. Mares may spontaneously abort, depending on the stage of gestation in which they are infected. If infection occurs during late gestation, foals may be born alive but with fulminating viral pneumonitis. These foals have suppressed immune systems and are susceptible to bacterial infection. They can die hours or days after birth.

Can people be infected?

No.

Is there a vaccine?

Yes.

Is this disease preventable?

Yes. Good husbandry and management will help reduce the risk of this disease in a herd.

Young horses and performance horses should be vaccinated every 2 to 3 months. Pleasure horses should be vaccinated every 6 months or 1 month before an event. Pregnant mares should be vaccinated during the 5th, 7th and 9th months of gestation. Foals should be vaccinated at 2 to 4 months of age and given a booster 3 to 6 weeks later and every 2 to 3 months thereafter.

Is this a reportable disease?

No.

Who should I contact if rhino is suspected?

Immediately contact a private veterinarian.

For more information:

The Merck Veterinary Manual:
http://www.merckvetmanual.com/mvm/index.jsp

Rift Valley Fever

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What is Rift Valley fever (RVF)?

RVF is a fatal, viral disease of unborn and newborn animals. RVF is endemic to southern and eastern Africa, Saudia Arabia and Yemen. These countries experience epidemics of the disease every 5 to 15 years, depending on rainfall.

Is the disease a foreign or emerging/endemic disease?

RVF is a foreign animal disease.

What animals are affected?

RVF affects cattle, sheep, goats, buffalo, camels, monkeys, gray squirrels and other rodents. Species such as cats, dogs and horses may be viremic (have the virus in the blood stream) but do not show severe signs of the disease.

How is it transmitted?

RVF virus is transmitted by mosquitoes, primarily the Aedes mosquito, but also by ticks and biting midges. The virus multiplies in ruminants such as sheep and cattle. When a mosquito bites an infected animal it picks up the virus and can then transmit it to other animals. The virus survives in mosquito eggs until the next rainfall when the eggs hatch. The virus can stay alive in harsh environmental conditions for 4 months to 8 years.

What is the incubation period of the disease?

The incubation period is approximately 3 days in animals and 2 to 6 days in humans.

What are the symptoms?

Symptoms vary with the age, species and breed of the animal. The most common symptom in endemic areas is a high incidence of mortality in newborns and abortions in pregnant animals.

Can people be infected?

Yes.

Is there a vaccine?

Yes. Several different vaccines are used in endemic areas around the world.

Is this disease preventable?

Yes. The best way to prevent RVF from entering the U.S. is to implement biosecurity protocols. Once RVF is introduced into an area it is very difficult to eradicate.

Is this a reportable disease?

Yes. If a veterinarian diagnoses a case of RVF it should be reported immediately to state or federal animal and public health officials so they can control/eradicate the outbreak by implementing quarantines.

Who should be contacted if RVF is suspected?

Immediately contact a private veterinarian or the state or federal animal health regulatory agency.

For more information:

Texas AgriLife Extension Service—Veterinary Medicine:
http://aevm.tamu.edu

The Center for Food Safety and Public Security:
http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

CIDRAP:
http://www.cidrap.umn.edu/cidrap/content/biosecurity/ag-biosec/anim-disease/rvf.html

FAO:
http://www.fao.org/ag/againfo/subjects/en/health/diseases-cards/rvfhtmlm

Rinderpest

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What is rinderpest?

Rinderpest, or cattle plague, is a viral disease of cattle that is highly contagious and fatal.

Is the disease a foreign or emerging/endemic disease?

Rinderpest is a foreign animal disease.

What animals are affected?

Cattle, buffalo and other cloven-hoofed animals.

How is it transmitted?

Rinderpest is transmitted by direct contact with infected animals. The virus is shed in mucous, nasal and eye secretions, as well as in feces.

What is the incubation period of the disease?

The incubation period is typically 4 to 5 days, but can range from 3 to 15 days.

What are the symptoms?

Clinical signs of the disease vary with the virulence of the viral strain. It can begin with a high fever and congested mucous membranes. In acute and classical forms of the disease, animals will show depression, very watery diarrhea, and anorexia. Death may occur 2 to 3 days or 8 to 12 days after symptoms appear, depending on the virulence of the strain.

Can people be infected?

No.

Is there a vaccine?

Yes. Vaccination has been used in endemic countries and in countries that border them.

Is this disease preventable?

Yes. Using biosecurity protocols will reduce the risk of this disease. Visitors should have limited contact with animals and wear clothing that has not been on other livestock premises recently. All visitors should be known to the livestock owner and sign in so there is a record of their visit. Isolating any sick animals from the herd will prevent the disease from spreading. Infected animals and animals that have had contact with them should be culled and destroyed. Their carcasses should be burned or buried. The premises should be disinfected.

Is this a reportable disease?

Yes. Once a diagnosis is confirmed, state and federal animal health regulatory agencies should be notified immediately. In the event of an epidemic, the best approach to controlling it is the disposal of infected animals.

Who should be contacted if rinderpest is suspected?

Immediately contact a private veterinarian or the state or federal animal health regulatory agency.

For more information:

The Center for Food Safety and Public Security:
http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

World Organization for Animal Health (OIE):
www.oie.int

Scrapie

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What is scrapie?

Scrapie is a fatal, central nervous system disorder affecting sheep and goats. It is caused by a prion protein similar to the one that causes bovine spongiform encephalopathy (BSE) and chronic wasting disease (CWD).

Is the disease a foreign or emerging/endemic disease?

Scrapie is endemic to the U.S.

What animals are affected?

Sheep and goats.

How is it transmitted?

Scrapie is transmitted *in utero* and when animals consume feed or grass contaminated with the causative agent shed in placental and fetal fluid. The scrapie agent is highly resistant to any conventional physical or chemical methods used to disinfect or kill fungi, bacteria, spores or viruses.

What is the incubation period of the disease?

The incubation period is 2 to 5 years after the initial infection.

What are the symptoms?

Sheep and goats may exhibit behavior and physical changes such as:

- increased excitability, nervousness, or aggressiveness
- fine tremors of the head and neck
- convulsions
- drinking small quantities of water frequently
- severe itching and rubbing

Not all infected animals will exhibit all these symptoms, and some may die without any symptoms.

Can people be infected?

No.

Is there a vaccine?

No.

Is this disease preventable?

Yes. By implementing biosecurity practices, producers can keep scrapie out of their herds.

- Identify all animals.
- Test all breeding animals for genetic susceptibility.
- Though not yet approved, there is a monoclonal antibody test to identify the prion protein in lymphoid tissue of the third eyelid.

Is this a reportable disease?

Yes. Animals that exhibit symptoms of scrapie should be reported to your private veterinarian or to the state or federal animal health regulatory agency. Genetic susceptibility testing reduces the number of animals that must be removed from infected herds.

Who should be contacted if scrapie is suspected?

Immediately contact a private veterinarian or the state or federal animal health regulatory agency.

For more information:

USDA-APHIS:
http://www.aphis.usda.gov/publications/animal_health

The Center for Food Safety and Public Security:
http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

Strangles

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What is strangles?

Strangles, a very contagious, bacterial disease, attacks the upper respiratory system and causes abscesses of lymph nodes.

Is the disease a foreign or emerging/endemic disease?

Strangles is endemic to the U.S.

What animals are affected?

Horses.

How is it transmitted?

It is transmitted by direct contact with pus or nasal discharge. It is also possible for infected animals to transmit the disease via aerosols and the contamination of fomites.

How long is the incubation period?

The incubation period is 3 to 6 days, with inflammation of the upper respiratory tract beginning 1 to 2 days after infection.

What are the symptoms?

The first symptom is an immediate spike in temperature up to 106 degrees F. Infected horses may then act depressed and have a nasal discharge and swollen lymph nodes. Enlarged lymph nodes can cause an extension of the horse's neck, which may result in difficulty swallowing and respiratory noises. Some horses may develop abscesses in other parts of the body; this is called metastatic strangles, or "bastard strangles."

Is there a vaccine?

Yes.

Can people be infected?

No.

Is this disease preventable?

Yes. Biosecurity practices will reduce the chance of introducing strangles to a herd. These practices include isolating infected animals, disinfecting areas and tack that have had contact with infected animals, and quarantining new and returning horses before placing them in the herd.

Is this a reportable disease?

No.

Who should be contacted if strangles is suspected?

Immediately contact a private veterinarian.

For more information:

The Merck Veterinary Manual:
http://www.merckvetmanual.com/mvm/index.jsp

Wikipedia:
http://en.wikipedia.org/wiki/Strangles

Swine Vesicular Disease

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What is swine vesicular disease (SVD)?

Swine vesicular disease (SVD) is a contagious, viral, blister disease. It must be diagnosed early and distinguished from foot and mouth disease.

Is the disease a foreign or emerging/endemic disease?

SVD is a foreign animal disease.

What animals are affected?

SVD affects only swine.

How is it transmitted?

SVD can be introduced into a herd by feeding garbage that contains infected meat scraps or by adding infected animals to the herd. Once introduced, the virus spreads from animal to animal by contact with feces or excretions from infected animals. An infected pig sheds the virus from its nose and mouth and in its feces 48 hours before symptoms are observed, and may continue to shed the virus for up to 3 months after symptoms disappear.

What is the incubation period of the disease?

The incubation period of SVD is 2 to 7 days (2 to 3 days if pigs ingest the virus in contaminated feed).

What are the symptoms?

Symptoms of SVD include fever; vesicles in the mouth and on the snout, feet and teats; lameness and an unsteady gait; and shivering and jerky movements. Animals usually recover within a week. Younger animals are more likely to be severely affected and die than older animals.

Can people be infected?

Rarely. People who work in laboratories have occasionally become infected.

Is there a vaccine?

No.

Is this disease preventable?

Yes. To prevent SVD from entering a premise use standard biosecurity protocols. Other prevention methods include:

- cooking garbage thoroughly before feeding it to swine
- quarantining infected animals and animals from areas where the infection is known to occur
- destroying animals that recover, because they continue to shed the virus for up to 3 months after the initial infection

Is this a reportable disease?

Yes. Early detection and rapid reporting are important because symptoms of SVD are similar to FMD. If a herd becomes infected, the premises will be placed under quarantine and all swine will be destroyed. The premises will then be cleaned and disinfected.

Who should be contacted if SVD is suspected?

Immediately contact a private veterinarian or the state or federal animal health regulatory agency.

For more information:

Texas AgriLife Extension Service—Veterinary Medicine:
http://aevm.tamu.edu

The Center for Food Safety and Public Security:
http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

USDA-APHIS:
http://www.aphis.usda.gov/publications/animal_health

Tetanus

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What is tetanus?

Tetanus is a potentially fatal disease that affects the central nervous system and is caused by a bacterial toxin. The bacteria can be found in the soil.

Is the disease a foreign or emerging/endemic disease?

Tetanus is endemic to the U.S.

What animals are affected?

All animals are susceptible to the disease, although horses are most susceptible.

How is tetanus transmitted?

Tetanus is usually transmitted when a wound contacts a contaminated fomite. The bacterium cannot survive in normal tissue or in the presence of circulating blood. But if tissue dies, the bacterium will proliferate and produce a neurotoxin.

What is the incubation period of the disease?

Animals usually show symptoms after an incubation period of 10 to 14 days, but it may vary from 1 to several weeks.

What are the symptoms?

Localized stiffness may appear around the wound site weeks after the injury occurred. Horses infected with tetanus will have head spasms that prevent them from chewing their food. This is termed "lockjaw." Horses will also have erect ears, a stiff and extended tail, and an apparent third eyelid. The stiffness in their bodies makes it difficult for them to walk and turn and gives them a "sawhorse" stance. Infected sheep, goats and pigs may fall to the ground with their heads extended backwards and their legs fully extended. Temperatures may be only slightly above normal, but can be as high as 108 to 110 degrees F. Animals may die.

Can people be infected?

Yes.

Is there a vaccine?

Yes.

Is this disease preventable?

Yes. Good animal husbandry and management should prevent animals from becoming infected with tetanus. Horses should be vaccinated yearly with a tetanus toxoid. A booster dose should be given if they are wounded or injured. Mares should be vaccinated within 6 weeks of foaling and foals at 5 to 8 weeks of age. In high-risk areas, foals should be given tetanus antitoxin immediately after birth and every 2 to 3 weeks afterward until they are 3 months old.

Is this a reportable disease?

No.

Who should be contacted if tetanus is suspected?

Contact a private veterinarian immediately.

For more information:

The Merck Veterinary Manual:
http://www.merckvetmanual.com/mvm/index.jsp

Tularemia

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What is tularemia?

Tularemia, or rabbit fever, is a bacterial disease of domestic and wild animals.

Is the disease a foreign or emerging/endemic disease?

Tularemia is endemic to the U.S.

What animals are affected?

Sheep, horses, swine, dogs, rabbits and hares, beavers, muskrats and voles.

How is it transmitted?

Routes of transmission are oral, inhalation and skin wounds by means of direct contact, contaminated food and water, aerosol and vectors. Vectors include ticks, fleas and biting flies.

What is the incubation period of the disease?

The incubation period varies from 3 to 15 days.

What are the symptoms?

Infected animals may suddenly be stricken with a high fever and may exhibit signs of lethargy, anorexia, stiffness and reduced mobility. Some animals may have diarrhea and an abnormal increase in urination. Untreated animals die.

Can people be infected?

Yes.

Is there a vaccine?

No.

Is this disease preventable?

Yes. Protect animals from external parasite infestations. People should protect themselves by:

- using insect repellents with DEET
- avoiding wildlife areas infested with ticks, fleas and biting flies
- practicing proper hygiene in dressing and cooking wild game rabbits

Is this a reportable disease?

No.

Who should be contacted if tularemia is suspected?

Immediately contact a private veterinarian.

For more information:

The Center for Food Safety and Public Security:
http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

Vesicular Stomatitis

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What is vesicular stomatitis (VS)?

Vesicular stomatitis is a viral, zoonotic disease of livestock. Most cases are reported during the warm months along rivers and streams in the southwestern United States.

Is the disease a foreign or emerging/endemic disease?

VS is an endemic disease in the U.S.

What animals are affected?

Cattle, horses and swine are usually affected. Sheep and goats are very rarely affected.

How is it transmitted?

VS is transmitted by gnats and flies, contaminated facilities or equipment, or movement of animals. Once introduced into a herd, it apparently spreads from animal to animal by exposure to saliva or fluid from ruptured lesions. Biting gnats such as sand flies and black flies are known to maintain VS by transovarial transmission.

What is the incubation period of the disease?

The incubation period is 3 to 5 days.

What are the symptoms?

The symptoms depend on the species of animal, though fever is common in all species. Infected animals may salivate excessively. Close examination of the mouth of infected animals reveals blanched, raised vesicles (blisters). In horses, these lesions generally occur on the upper surface of the tongue. In cattle, lesions usually appear on the hard palate, lips and gums, sometimes extending to the muzzle and nostrils. Dairy cattle often suffer from teat lesions, which may lead to mastitis. The first sign in swine may be lameness caused by foot lesions. Diseased animals usually recover in 2 weeks as long as no secondary infections occur.

Can people be infected?

Yes. People can become infected by skin contact or inhalation.

Is there a vaccine?

Yes. A VS vaccine for cattle may be available during a significant outbreak, although little is known about its effectiveness in preventing infection or reducing symptoms.

Is this disease preventable?

Yes. To protect animals from VS:

- Control biting gnats and flies.
- Keep horses stalled or under a roof during early morning and late afternoon hours to reduce their exposure to gnats.
- Keep stalls clean.
- Feed and water livestock from individual buckets.
- Disinfect borrowed equipment or tools.
- Don't visit a ranch that is under quarantine for VS, but wait until the animals have healed.

Infected animals should be quarantined for 30 days after the last lesions are healed to keep the disease from spreading.

Is this a reportable disease?

Yes. VS in cattle and swine closely resembles foot-and-mouth disease, so early detection and testing by a veterinarian are important. During an outbreak, keep horses stalled to minimize their exposure to infected animals.

Who should be contacted if VS is suspected?

Immediately contact a private veterinarian or the state or federal animal health regulatory agency.

For more information:

Texas AgriLife Extension Service—Veterinary Medicine:
http://aevm.tamu.edu

The Center for Food Safety and Public Security:
http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

USDA-APHIS:
http://www.aphis.usda.gov/publications/animal_health

TAHC:
http://www.tahc.state.tx.us/news/brochures/VS_brochure.pdf

West Nile Encephalitis

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What is West Nile encephalitis (WNE)?

West Nile encephalitis (WNE) is a mosquito-borne virus that causes an inflammation of brain tissue. It was first detected in New York in 1999 and is presently in 48 states.

Is the disease a foreign or emerging/endemic disease?

WNE is endemic to the U.S.

What animals are affected?

WNE primarily affects birds, horses and people.

How is it transmitted?

Migrating birds play a key role in transmitting the disease because they act as a reservoir host. Blood-feeding mosquitoes acquire the virus from infected birds and pass it on to susceptible animals and people. There is no proof that the virus passes directly from infected horses to susceptible horses.

What is the incubation period of the disease?

The incubation period ranges from 3 to 14 days.

What are the symptoms?

Symptoms in horses include:

- ataxia (failure of muscle coordination)
- depression and apprehension
- weakness of limbs
- partial paralysis
- muscle twitching
- death

Infected horses do not need to be euthanized unless symptoms become very severe. Two of every three horses with symptoms will survive.

Can people be infected?

Yes. A bite from an infected mosquito can transmit the virus.

Is there a vaccine?

Yes. Several vaccines are available for use in horses.

Is this disease preventable?

Yes. There are several ways to protect animals and people from WNE.

- Remove breeding sites of mosquitoes by draining standing water.
- Regularly clean livestock watering troughs.
- Use a mosquito repellent that contains DEET.
- Wear long-sleeved shirts and long pants.
- Do not harvest birds that exhibit erratic behavior.
- Wear rubber gloves while cleaning or handling birds.
- Thoroughly cook meat of hunted birds.
- Vaccinate horses.

Is this a reportable disease?

Yes. If you see any dead birds (mainly crows, jays and hawks), report them to your local health department for proper testing and diagnosis.

Who should be contacted if WNE is suspected?

The state health department should be notified immediately.

For more information:

Texas AgriLife Extension Service—Veterinary Medicine:
http://aevm.tamu.edu

The Center for Food Safety and Public Security:
http://www.cfsph.iastate.edu/DiseaseInfo/default.htm

USDA-APHIS:
http://www.aphis.usda.gov/publications/animal_health