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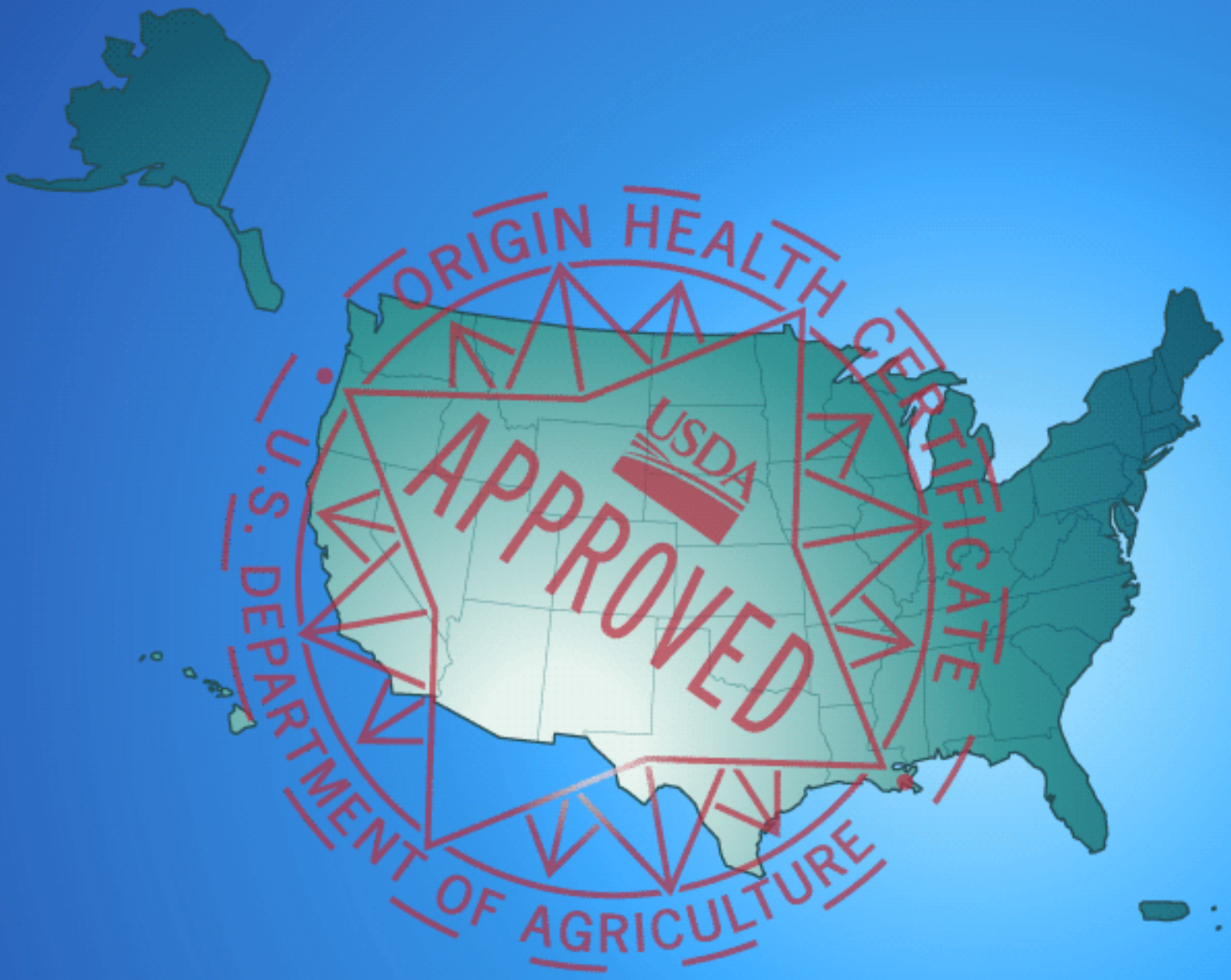
Animal and Plant Health Inspection Service

APHIS 91–55–082

National Veterinary Accreditation Program

Reference Guide



Preface

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CAUTION: *Pesticides can be injurious to humans, domestic animals, desirable plants, and fish or other wildlife — if they are not handled or applied properly. Use all pesticides selectively and carefully. Follow recommended practices for the disposal of surplus pesticides and pesticide containers.*

This guide supersedes APHIS 91-55-065, "Veterinary Accreditation: A Reference Guide for Practitioners", published in February 1993, and all subsequent revisions pre-dating July 2011.

This guide may be obtained from your APHIS VS Area Office on compact disc (CD). Information on how to contact your APHIS VS Area Office is contained in Appendix B of this guide.

Introduction

Welcome to the National Veterinary Accreditation Program (NVAP). Thank you for participating in the program and becoming a U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) accredited veterinarian. This reference manual is your guide to the NVAP and contains information vital to understanding and performing your responsibilities as an accredited veterinarian, including:

- Animal identification;
- Disease prevention, control, and eradication;
- Regulatory immunization;
- Regulations for intrastate, interstate, and international shipment of animals and animal byproducts; and
- Instructions on the proper selection, completion, and submission of regulatory forms.

As an accredited veterinarian, you are the first line of defense in ensuring the health of this Nation's livestock and poultry. APHIS is dependent on accredited veterinarians for carrying out many of the programs and services designed to protect public health and safeguard animal health. You and other accredited veterinarians share in a partnership with APHIS, State animal health officials, and the animal agriculture industry. The professional ethic is the basis for trust between veterinarians and their clients and also between veterinarians and their peers working in animal health and regulatory medicine.

As an accredited veterinarian, you must perform all accreditation work following State and Federal laws and regulations and approved procedures. Included in this guide are the Standards for Accredited Veterinarians from the Code of Federal Regulations (CFR) (appendix A).

By agreeing to participate in the Accreditation Program, you have accepted the responsibility for knowing these and other appropriate Federal and State regulations and you have agreed to conduct all activities as an Accredited Veterinarian in accordance with the Standards of Accredited Veterinarian Duties and any amendments there to which may subsequently be issued and in accordance with any instructions received from an APHIS representative.

It is important to be sure that all APHIS-accredited veterinarians are performing their duties in accordance with current USDA regulations. Within USDA–APHIS, Investigative and Enforcement Services (IES) provides support to all the agency's program units, including Veterinary Services (VS). IES investigators look into allegations that an accredited veterinarian did not abide by the standards for accredited veterinarian duties as noted in 9

CFR PART (161.4). Further details about IES' work and your role in the investigative process are found in the chapter entitled "Compliance and Regulations" of this Reference Guide.

Chapter Contents Navigation Hint
To jump directly to an item in the contents, move your mouse pointer over the item and left click. To return to the first page, hold the control key down and press the home key.

Chapter Contents

Control and Eradication

Brucellosis

Brucellosis is a contagious, infectious, and communicable disease affecting primarily cattle, bison, and swine that is caused by bacteria of the genus *Brucella. Brucella abortus* affects mainly bovine species; *B. suis* affects mainly porcine species. Goats, sheep, and horses are also susceptible to *B. abortus*. A third strain, *B. melitensis*, affects mainly goats and sheep. Though *B. ovis*, which affects sheep, does exist in the United States, it does not cause significant disease problems. Currently, there is no program and no initiative to establish a program for the control of *B. ovis or B. melitensis*.

In its principal animal hosts, brucellosis causes loss of young through spontaneous abortion or birth of weak offspring, reduced milk production, and infertility. It can affect both animals and humans. Brucellosis is transmitted from animals by direct contact with infected blood, placenta, fetuses, or uterine secretions or through the consumption of infected and raw animal products (especially milk and milk products). There is no economically feasible treatment for brucellosis in livestock.

The regulations of APHIS' Brucellosis Eradication Program vary on the basis of the brucellosis status in each State. Minimum standards are set forth in the Brucellosis Eradication Uniform Methods and Rules, a publication distributed by VS. Some States have more restrictive requirements. Check with the APHIS –VS Area Office nearest you (appendix B) for testing and vaccination policies. Contact the State or Federal animal health officials in your State to obtain all necessary forms, mailers, identification tags, and other items required for both vaccinating and testing eligible animals. (For some items, fees may apply.)

Interstate Shipment

Before testing for interstate shipment, obtain specific State regulations by contacting the State animal health official's office in the importing State. See appendix C for a list of addresses and telephone numbers of State animal health officials.

International Export

When preparing to test and certify an animal for international export, become familiar with the requirements by visiting the National Center for Import and Export, Animal Regulations Library at: **http://www.aphis.usda.gov/import_export/**

and then contact the APHIS –VS Area Office for additional guidance at:
http://www.aphis.usda.gov/animal_health/area_offices/

VS Form 4 – 33

VS Form 4–33, Brucellosis Test Record, must be completed for each animal or each herd tested (a separate 4–33 must also be completed for each species tested). See appendix D for an example of this form and instructions for completing it. VS Form 4–33 requires that you list the reason for the test. Reasons may include export (specify the test required by the importing country), interstate movement (depends on the State of destination), sale (even local change of ownership in many States), show or fair, diagnostic assessment (such as abortion), and owner request. If infection is suspected or confirmed, regulatory officials will contact you, the owner, or both, to develop a herd plan.

VS Form 4 – 54

VS Form 4–54, Brucellosis Test Record—Market Cattle Testing Program, is used for brucellosis tests done as part of the Market Cattle Testing Program. That program refers to the testing of cattle and bison at markets (first point of concentration) or slaughter. See appendix D for an example of this form and instructions for completing it.

Testing

Bovine—A complete herd blood test must include all cattle or bison 6 months of age and older, except steers, spayed heifers, official Strain 19 calfhood vaccinates of the dairy breeds under 20 months of age, and official Strain 19 calfhood vaccinates of bison or beef breeds under 24 months of age. The presence of the first pair of fully erupted permanent incisor teeth is evidence that an animal has reached 24 months of age. Official Strain 19 calfhood-vaccinated cattle or bison under these ages must be included in the herd test if they are parturient (springers) or have already calved.
Note: Age-based testing requirements do not apply to RB51 vaccinates.

Swine—A complete herd test must include all breeding swine more than 6 months of age unless they are being fed for slaughter and are not in contact with breeding swine. Vietnamese potbellied pigs are considered to be domestic swine for the purposes of disease control and eradication procedures and, as such, fall under the same regulations in Title 9 of the CFR. All tested swine must be identified with an official eartag, tattoo, or other official identification. Also see the subsection entitled “Current Animal Identification.”

Exotic Species—When dealing with exotic or nondomestic species, contact your State animal health official at:
http://www.usaha.org/Portals/6/StateAnimalHealthOfficials.pdf
or APHIS –VS Area Office at: **http://www.aphis.usda.gov/animal_health/area_offices/**

Blood Collection and Submission

Identify each animal with either an official USDA metal eartag placed in the upper middle portion of the right ear, an official USDA RFID eartag placed in the middle of the left ear, an individual animal's breed registration tattoo or brand, or an individual registration number (in conjunction with an official eartag, or breed registration tattoo or brand) issued by a breed association recognized by VS. (Also see the section entitled "Current Animal Identification.") Record the eartag (identification or vaccination), registration tattoo, age (months or years), sex, and breed on VS Form 4–33. If you are working with a herd known to be, or suspected of being, infected, take proper precautions by wearing protective gloves and eyewear. Avoid direct contact with retained placenta, vaginal discharges, aborted fetuses, and other reproductive tissues because these materials are potential sources of human brucellosis.
Note: If the animal has an official USDA metal or RFID eartag in place, record that eartag on the 4-33, but do not place a new official USDA metal or RFID eartag in the ear. Record all official USDA eartags (metal and/or RFID).

Collect 3 to 5 mL of blood. Take appropriate precautions to prevent hemolysis by (1) sending the samples with ice packs or (2) centrifuging, pouring the serum off, and sending the serum only. (See the section entitled "Laboratory Submissions.") Because swine blood is particularly susceptible to hemolysis, take extra precautions in handling it. If you are bleeding the animal with a needle and syringe, do not extrude the sampled blood from the syringe through the needle into the test tube. This practice can cause hemolysis. Blood or serum samples should be delivered to the cooperative State or Federal laboratory as soon as possible for testing. Test results will be interpreted by State or Federal regulatory officials. You may be contacted for additional individual or herd history.

Animals Eligible for Vaccination

Vaccinate only heifer calves between the ages of 4 and 12 months. Many States have even more restrictive age requirements for vaccination. Before vaccinating any animals for brucellosis, be certain that you understand and follow your State's requirements. Adult vaccination for brucellosis is conducted by State and/or Federal officials only. If you have questions concerning this program, contact the State animal health official or the APHIS – VS Area Office nearest you.

Instructions for Vaccination

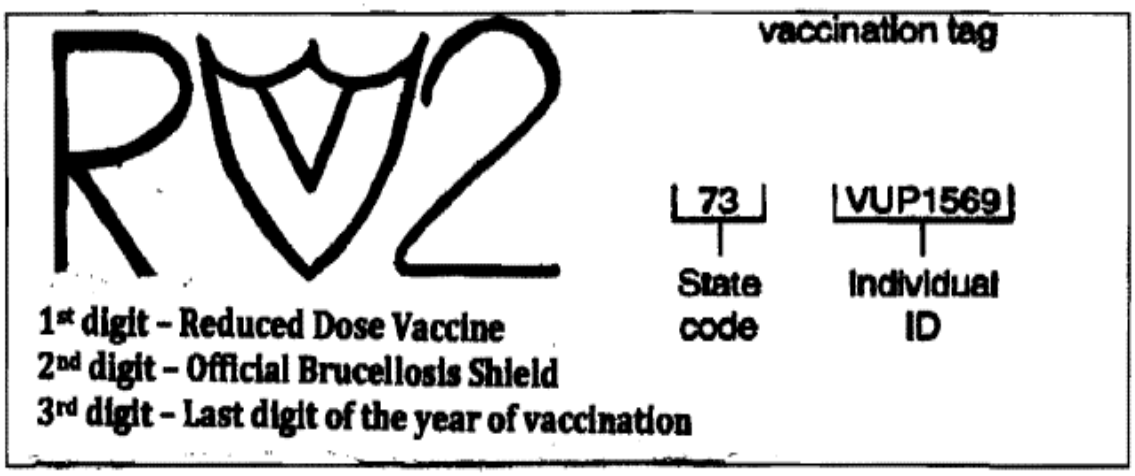
Step 1: Vaccine Handling and Administration—

1. Keep the vaccine stored properly according to label instructions.
2. Check the expiration date before using.
3. Reconstitute the vaccine following the label instructions.
4. Mix the RB51 vaccine just before using; keep it cool and out of direct sunlight.
5. Use caution. RB51 may cause clinical brucellosis in humans if accidentally injected, sprayed in the eyes, or allowed prolonged contact with the skin. If you are exposed, contact a physician as soon as possible.
6. After reconstitution, the vaccine loses potency rapidly. Do not reconstitute more vaccine than will be used in 1 hour, and, if working in warm weather, keep the vial on an ice pack to maintain viability.
7. To avoid contamination and accidental vaccine exposure to other than vaccination-eligible animals, maintain separate syringes and needles for brucellosis.
8. Administer 2 mL of the vaccine subcutaneously.

Step 2: Tattooing—

1. Clean the inside of the right ear to enhance ink penetration. Green ink works best for legibility, especially in black-pigmented ears.
2. Tattoo the ear with the appropriate coding between cartilage ribs in the middle of the ear. Allow for normal growth of the ear. If ear marks or notches do not permit this location, try to place the tattoo as near as possible to the recommended position.
3. Apply the ink with a dauber and thoroughly rub the ink into the tattoo holes.
4. Vaccination tattoos must be applied to the right ear. For *B. abortus* Strain 19 vaccinates, the tattoo will include the U.S. Registered shield and "V," which will be preceded by a number indicating the quarter of the year and followed by a number corresponding to the last digit of the year in which the vaccination was done. For *B. abortus* Strain RB51 vaccinates, the tattoo will include the U.S. Registered shield and "V," which will be preceded by a letter R and followed by a number corresponding to the last digit of the year in which the vaccination was done. Documentation of brucellosis vaccination tattoo information on the VS Form 4–33 and 4-54 is essential for accurate test interpretation.
5. Below is an example of the tattoo that would be applied in the right ear of a female calf that was brucellosis vaccinated in the 3rd quarter of a year ending in the digit "2". The first digit represents the quarter of the calendar year that the female calf was vaccinated in. The third digit represents the last digit of the 4 year digits of the year the female calf was vaccinated in. The middle digit is the Official Brucellosis Shield. In this example the calf was vaccinated in either July, August, or September and in either 1992, or 2002, or 2012, etc. For a female calf vaccinated with RB 51, the 3 would be replaced by an R, indicating vaccination with RB 51 in 1992, or 2002, or 2012. You should contact your State animal

health official if you are interested in obtaining the Brucellosis Shield digit for your vaccination pliers.



Example of a reduced dose vaccination tattoo applied in the right ear

Step 3: Records—

1. Record the information (eartag, age in months, breed, sex, and whether purebred or grade) on VS Form 4–24, Brucellosis Calfhood Vaccination Record, or VS Form 4–26, Brucellosis Vaccination Record. (See appendix D for examples and instructions for completing these forms.)

2. Use only official USDA orange metal vaccination tags and official USDA tattoos placed in the right ear. Individual animal registered breed association registration brands or tattoos may be substituted for official eartags. Official USDA RFID eartags placed in the left ear, to avoid interference with the official vaccination tattoo, may be substituted for the official USDA orange metal vaccination tags.

3. Promptly submit the vaccination records to your State program records offices as instructed by your State Officials. Many States require that records be submitted within 7 days; check with your State for specific guidelines. *Note: Animals are not considered to be official vaccinates until the State animal health official or APHIS –VS Area Office has recorded the certificate information. Timely submission of certificates is essential.*

4. On rare occasions, it may be necessary to recertify a vaccinated animal that has no tag or an illegible tattoo as having been vaccinated. Phone your State animal health official or APHIS –VS Area Office for permission and specific instructions.

Working With Infected Herds

The details of eradicating brucellosis from herds known to be infected are beyond the scope of this manual. Your State animal health official, the APHIS –VS Area Office for your

State, and your local regulatory veterinarian will work with you and your client to develop a herd plan.

Johne's Disease

Johne's disease is a contagious, chronic, and usually fatal infection that affects primarily the small intestine of ruminants. Johne's disease is caused by *Mycobacterium avium* subspecies *paratuberculosis (M. avium* subsp. *paratuberculosis),* a hardy bacterium related to the agents of leprosy and TB. Johne's disease is found worldwide.

Based on the 2007 Dairy NAHMS study, about 68 percent of U.S. dairy herds have at least one cow that tests positive for Johne's with herd prevalence approaching 100% in large dairy herds. Because few herds have instituted biosecurity programs, infection continues to spread. Although infection seems less widely distributed in beef and goat herds and sheep flocks, Johne's is nonetheless of critical significance to all producers.

Johne's disease can have severe economic impacts on infected herds. It is imperative that U.S. herds and flocks employ safeguards against becoming infected. Identifying and protecting noninfected herds and flocks will provide a source of breeding stock and replacement animals for others and help to reduce the national prevalence of the disease.

Clinical Signs and Stages

In cattle, signs of Johne's disease include weight loss and diarrhea with normal appetite. Several weeks after the onset of diarrhea, a soft swelling may occur under the jaw. This intermandibular edema, or "bottle jaw," is due to protein loss from the bloodstream into the digestive tract. Animals at this stage of the disease will not live very long—perhaps a few weeks at most.

Signs are rarely evident until 2 or more years after the initial infection, which usually occurs shortly after birth. Animals exposed at an older age, or exposed to a very small dose of bacteria at a young age, are not likely to develop clinical disease until they are much older than 2 years.

In sheep and goats, the clinical sign are harder to spot. The intestines become thick and less efficient at absorbing nutrients. Affected sheep continue to eat but lose weight and "waste away." Although the disease causes diarrhea in cattle, less than 20 percent of sheep show diarrhea. In up to 70 percent of sheep, the disease may remain at subclinical levels, where individual animals never show signs of the disease but shed the agent in their feces and infect other sheep and contaminate the environment. In goats, weight loss, poor

performance and occasionally clumpy feces are all that is seen. Affected animals usually show sign before they are 1 year of age.

Johne's Disease is Generally Described as Having Four Stages:

Stage I: Silent, subclinical, nondetectable infection. Typically, this stage occurs in calves, heifers, and young stock under 2 years of age or animals exposed at an older age. Current tests (including fecal culture and serological tests) cannot detect infection in animals that young. Research to develop new tests to detect the disease in such animals is ongoing. This stage progresses slowly over many months or years to Stage II. It is possible that some animals recover from this early phase of infection.

Stage II: Subclinical shedders. This stage usually occurs in heifers or older animals. Animals appear healthy but are shedding *M. avium* subsp. *paratuberculosis* in their manure at levels high enough to be detected. Current blood tests are not reliable to detect Johne's in animals at this stage. These animals pose a major but often hidden threat of infection to other animals through contamination of the environment. Stage II animals may or may not progress over time to Stage III.

Stage III: Clinical Johne's disease. Animals in this stage have advanced infection, and clinical signs are often brought on by stress. Clinical signs at this stage include acute or intermittent diarrhea, weight loss despite a normal appetite, and decreased milk production. Some animals appear to recover but often relapse in the next stressful period. Most of these animals are shedding billions of Johne's-causing organisms, and fecal organism detection tests give positive results. Many animals are positive on serologic tests as well. Clinical signs may last days to weeks before the animals progress to Stage IV.

Stage IV: Emaciated animals with fluid diarrhea. This is the terminal stage of the disease in which animals become extremely thin and develop bottle jaw. Animals culled to slaughter in this stage may not pass inspection for human consumption due to disseminated infection.

In the typical herd, for every animal in Stage IV, many other cattle are infected. For every obvious case of Johne's disease (Stage IV) among dairy cattle on the farm, 15 to 25 other animals are likely infected. The clinical case represents only the "tip of the iceberg" of Johne's infection.

In other ruminant species, the progression of the disease may occur more rapidly with weight loss as the only visible sign of infection.

Epidemiology

Johne's disease usually enters a herd when healthy but infected animals (Stage I or II) are

introduced. Cattle are most susceptible to the infection in the first year of life. Calves most often become infected by swallowing small amounts of infected manure from the calving environment or udder of the cow. In addition, calves can become infected while in the uterus or by swallowing bacteria passed in milk and colostrum. Studies have shown that up to 25 percent of calves are infected in utero if the cow is in Stage III of the disease. Calves may become infected by exposure to contaminated manure any time in the first year of life (e.g., from manure splatter to calves raised near adult cows).

Cattle of any age can become infected, though some age resistance does occur. This age resistance can be overcome by high doses of bacteria over time from sources such as manure-contaminated feed bunks or water sources. All ruminants are susceptible to Johne's disease. In addition, all infected animals shed the organism through feces, thereby creating a possible route of exposure.

Diagnosis

In the live animal, fecal organism detection tests (culture and polymerase chain reaction methods (PCR)) are the most accurate diagnostic test. However, on a herd basis only about 40 percent of infected cattle will be disclosed by even the most sensitive fecal culture technique. The sensitivity of fecal culture is low because some infected cattle (Stages I and II) do not shed the agent in their manure or because some animals shed the agent only intermittently and can be missed at testing time.

In addition, *M. avium* subsp. *paratuberculosis* is a slow-growing organism. Fecal culture on solid media requires 12 to 16 weeks for results. New liquid culture systems have reduced this time to as little as 5 weeks. PCR methods can detect the presence of *M. avium* subsp. *paratuberculosis* without its having to be grown. The test has the advantage that it takes less than 3 days and may not be affected by strain variations but has the disadvantages of higher cost and the potential of missing animals shedding only low quantities of bacteria.

Various serologic tests, including ELISA, agar-gel immunodiffusion (AGID), and complement fixation, detect antibody in the serum and can be used on a herdwide basis to screen for infection. Although less accurate than fecal culture, these tests are more rapid and less expensive. Serologic tests also work well to confirm clinical cases.

It is important to note that, as an accredited veterinarian, you should use only the USDA-licensed ELISA tests and USDA-approved laboratories.

In the dead animal, Johne's disease may be diagnosed by culture and histopathology of the lower small intestine and associated lymph nodes.

Johne's Disease Control Program

VS' goal is to curtail the spread of *M. avium* subsp. *paratuberculosis* to noninfected herds and to reduce the disease prevalence in herds currently infected. To accomplish this goal, VS has developed a cooperative Federal–State–Industry program that provides producer assistance by performing risk assessments for *M. avium* subsp. *paratuberculosis* transmission and developing herd-management plans to mitigate those risks.

VS is also working to provide funding for research to develop and validate control measures. Moreover, VS coordinates State activities and monitors current levels of infection in the United States.

State Governments and Tribal Councils participate by providing personnel to conduct risk assessments and aid in the development of herd-management plans. Depending on funding available, these agencies also help producers by supporting testing at reduced fees and underwriting other direct program costs. Industry cooperates by encouraging producers to participate in the program through information provided in industry journals and consultation with APHIS and professional societies.

To work with the Johne's Disease Control Program as an accredited veterinarian, one must first become a Johne's Certified Veterinarian. Johne's Certified Veterinarians have received additional education on the disease and have demonstrated to the State-Designated Johne's Coordinator that they can

1. Develop approved herd-management plans;
2. Provide appropriate Johne's disease risk assessments;
3. Understand Johne's disease epidemiology, testing, and test interpretation;
4. Understand State and Federal program requirements; and
5. Collect and submit fecal, tissue, and blood samples for Johne's disease testing.

Johne's Certified Veterinarians must provide Johne's risk assessments and develop herd-management plans and collect and submit samples according to the program requirements.

For information on Johne's Certified Veterinarian training in your state, please contact your State animal health official or your APHIS –VS Area Office.

For further information on the Voluntary Bovine Johne's Disease Control Program, please go to:
http://www.aphis.usda.gov/animal_health/animal_diseases/johnes/index.shtml

Prevention

For herds that are not infected, managers should take precautions against introduction of Johne's disease. Such precautions include keeping a closed herd or requiring that replacement animals come from test-negative herds. Some States offer Johne's certification to test-negative herds. The new Uniform Program Standards for the Voluntary Bovine Johne's Disease Control Program (APHIS 91–45–014) outline a new, voluntary national Johne's classification program that helps to identify risk of infection in participating herds.

The Johne's Program Standards can be found on the Web at:
http://www.aphis.usda.gov/animal_health/animal_diseases/johnes/index.shtml

The key to preventing Johne's infection is to know that

- Herds get infected only when infected animals are added to the premises;
- Prepurchase testing for Johne's disease is today's standard of veterinary practice; and
- Testing the herd of origin is much more reliable than testing only the purchased animals.

Table 2 outlines options (in order of decreasing risk) of buying *M. avium* subsp. *paratuberculosis*-infected animals.

Table 2—Johne's disease testing options and the risk of buying cattle

Options	Risk
No testing.	Very risky—10 percent chance of purchased animal being an *M. paratuberculosis*–infected cow.
ELISA-test the individual animal before purchase; do not purchase anything from herds with cows suspect or positive by ELISA.	Slightly less risky than not testing; more confidence in negative tests on older animals, not heifers.
Quarantine and test after purchase: ELISA positive—culture twice at 6-month intervals.	Lowers risk and is sound policy for several infectious diseases of cattle.
Partial test on herd of origin: ELISA on 30 lactating or older cows.	Low risk of Johne's disease in any animal from such herds but not 0 percent.
Whole-herd ELISA-test herd of origin.	Very low risk of Johne's disease if herd tests 100 percent ELISA negative or culture negative.
Purchase only from classified low-risk herds.	No risk of Johne's disease.

Pseudorabies (PRV)

Pseudorabies is a contagious, infectious, and communicable viral disease of livestock. The pig is the only natural host. However, pseudorabies virus (PRV) can infect most mammals, to include, cattle, goats, sheep, dogs, cats, and wild animals such as opossums, raccoons,

rodents, and skunks, except humans, horses and birds. Transmission of PRV can occur by direct nose-to-nose, venereally, including insemination with infected semen or transplacental transmission. Indirect transmission can occur by inhalation of aerosolized virus or ingestion of contaminated water.

Transmission of PRV can occur by direct nose-to-nose;, venereally , including insemination with infected semen or transplacental transmission. Indirect transmission can occur by inhalation of aerosolized virus or ingestion of contaminated water.

PRV is still found in feral swine populations. All feral swine should be considered a potential risk for PRV and other diseases of swine. The PRV virus commonly found in feral swine primarily transmits through sexual contact. That said, other transmission methods as described above are possible. Biosecurity to prevent feral swine exposure is important to protect swine.

In general, the virus infects the central nervous system (CNS) and the respiratory tract. Clinical signs observed depend on the age at time of infection. Young swine are very susceptible and can develop severe CNS symptoms. Mortality can reach 100 percent in piglets. Clinical signs in weaned pigs, depends on age. Few weaned pigs develop a fatal CNS disease but more often will develop a respiratory disease.

Grower finishing swine typically develop only a respiratory disease component. Adult swine may have a respiratory disease component and if pregnant, depending on the trimester of pregnancy, may abort, have stillborns or give birth to weak piglets.

Pigs of all ages display a generalized febrile response, anorexia, and weight loss. Infected pigs remain latently infected following clinical recovery.

PRV Program

PRV through State – Federal- Industry efforts was eradicated from the commercial industry in 2004. The US commercial industry has remained free. Additional information on current swine programs including the PRV program can be found at:
http://www.aphis.usda.gov/animal_health/animal_dis_spec/swine/

Interstate Shipment

If you are testing for interstate shipment, contact the State animal health official in the State of destination for specific requirements.

International Export

When preparing to test and certify an animal for international export, become familiar with the requirements by visiting the National Center for Import and Export, Animal Regulations Library at **http://www.aphis.usda.gov/import_export/**

You should also contact the APHIS –VS Area Office to confirm the current requirements for the country of destination and to get additional guidance at:
http://www.aphis.usda.gov/animal_health/area_offices/

As an alternative, you may have the exporter or broker contact the ministry of agriculture of the importing country for specific regulations and the need for any permits. You may find information about the ministry of agriculture at this web site:
http://www.state.gov/s/cpr/rls/fco/

Tuberculosis

Bovine tuberculosis (TB) is a contagious, infectious, communicable disease of animals and humans caused by *Mycobacterium bovis*. It is commonly a chronic, debilitating disease but occasionally may assume an acute, rapidly progressive course. TB is a widespread zoonosis of global magnitude and affects nearly all species of vertebrates. Disease is spread by direct contact, inhalation of droplets expelled from infected lungs, and ingestion of contaminated feed or milk. All accredited veterinarians must immediately report every suspected or diagnosed bovine TB case promptly to both the Veterinarian-in-Charge and the State Animal Health Official.

Testing

Diagnosing TB in live animals depends on using an effective testing technique with an intradermal injection of tuberculin obtained through your State animal health official or APHIS –VS Area Office. Several varieties of tuberculin are produced. However, use only bovine purified protein derivative tuberculin (PPD bovis) licensed by USDA for official testing. See table 1 for tuberculin test requirements for different species of animals.

Table 1 – Tuberculin test information for various animal species

Species	Dose and Type	Site	Read test visually and palpate
Cattle & Bison	**0.1 mL PPD bovis**	**Caudal Fold**	**72 h +/- 6h**
Horses	**Not reliable**		
Sheep & Goats	**0.1mL PPD bovis**	**Caudal Fold**	**72 h**
Swine	**0.1mL PPD bovis**	**Base of Ear or Vulvar lips**	**48 h**
Poultry	**0.05 mL avian**	**Wattle**	**48 h**
Exotic Bovidae	**0.1mL PPD bovis**	**Midcervical**	**72 h**
Deer, Elk & other Cervidae	**0.1mL PPD bovis**	**Midcervical**	**72 h**
Camelidae	**0.1mL PPD bovis**	**Postaxillary Region**	**72 h**

Note: TB testing and test result interpretation for many exotic species (such as some zoo animals) are not yet developed or reliable. For interstate movement of these animals, contact the State animal health official in the State of destination for the TB-testing requirements (if any) for these species.

Because the tuberculin test is based on an immune response, the animal being tested should not concurrently be receiving other medications, vaccinations, or anthelminthic drugs. These agents may temporarily affect the immune system and influence the result of the tuberculin test. This also means that sick animals may not be injected even if they are not being medicated or treated in any fashion. In addition, tail-bleeding is not recommended for other diagnostic procedures (e.g., brucellosis, Johne's disease) at the time of tuberculin-test injection in cattle or bison because tail-bleeding may interfere with test interpretation.

Veterinarians are legally responsible for properly conducting and evaluating the results of tuberculin tests. Therefore, perform the test yourself; do not delegate the responsibility to a technician. For TB testing in species other than cattle or bison (e.g., cervidae), contact your State animal health official or APHIS –VS Area Office for additional guidance.

Instructions for Testing

Step 1: Forms—

1. Complete VS Form 6–22, Tuberculosis Test Record. (See appendix D for an example of this form and instructions for completing it.)

2. Identify the animal on the form by its official identification as outlined in the section entitled "Current Animal Identification."

- All cattle and bison tested shall be individually identified by official eartags. Such identification must be recorded in its entirety on the test record at the time of injection and must be confirmed at the time of observation.
- Additional identification (such as bangle tags, non-official metal ear tags, neck chain numbers, tags, brands, horn numbers, and names) should also be recorded on the test record as supplemental information, but must never be used as the sole method of identification.
- When cattle and bison have been tagged with more than one official ear tag, all ear tag numbers must be recorded in their entirety.
- The breed, sex, and approximate age in years of each animal tested must be recorded in their entirety on the test record. Abbreviations such as C=Calf or A=Adult are not to be used.
- The owner should be informed of the number of animals injected, and advised to restrict them to the premises until the test is completed.

Step 2: Supplies—

1. Tuberculin. Use USDA-Veterinary Services approved PPD Bovis tuberculin (see table 1). Check the expiration date to be certain that the tuberculin is still valid.

2. Syringe. Use disposable 1.0 cc plastic tuberculin syringe.

3. Needle. Use a 26-gauge, 3/8-inch-long needle; a larger gauge and longer or shorter needle might allow the tuberculin to leak from the injection site. A new needle must be used for each animal.

Step 3: Injection of Tuberculin— All cattle and bison tested must be sufficiently restrained to permit careful application of the tuberculin injection(s), correct reading of animal identification, and careful observation and palpation of the injection sites. No test should be applied or observed without having the animal restrained in a satisfactory manner. Nose tongs are no longer used by APHIS regulatory personnel.

1. In cattle and bison, injections should be made about 2 to 3 inches distal to the base of the tail. Rest the caudal fold on the forefinger exposing the area outside the hairline in bare skin near the center of the caudal fold.

2. Note scars, defects, and anomalies of the skin in this area on VS Form 6–22 so that they will not be confused with possible test reactions at the time of reading.

3. Use the caudal fold on either side of the tail; however, note which side you injected.

4. Clean the area to be injected, but do not use alcohol because it may be irritating to the skin.

5. Grasp the caudal fold between the thumb and index and middle fingers to stabilize it.

6. Carefully insert the needle to its full length between the superficial layers of the skin; withdraw it slightly and deposit 0.1 mL of tuberculin.
7. A small bleb should appear in the skin at the end of the needle.
Note: It is important to establish a consistent injection technique (i.e., all animals should be injected on the same side of the tail)—particularly when testing large numbers of animals, unless there is some physical abnormality at the injection site.

Step 4: Reading the Test—
1. The test must be read between 66 and 78 hours after injection (72 hours is optimum). The veterinarian who made the injection must be the veterinarian who reads the test result. Exceptions must be approved in writing by the USDA, Veterinary Services, Area Veterinarian-in-Charge. The veterinarian must determine the results of the test by both observation and palpation of the injection site.
2. Verify the identification of the restrained animal and raise the tail to exert slight tension on the caudal fold.
3. Visually inspect the injection site closely and palpate it carefully to detect changes from the normal. Any swelling, sensitivity, or increase in thickness of the skin is considered to be a positive response to the tuberculin. The size of responses may vary and are not indicative of infectious status. Responses may be small, hard, pea-sized responses, diffuse responses, circumscribed responses, or large responses. If there is doubt about whether a response has occurred, palpate the opposite side of the tail to determine if there is a change from normal. Any observed change should be recorded.
4. Test observation without palpation is unacceptable.

Step 5: Recording the Results of the Test—
1. Use VS Form 6–22.
2. Enter "N" (negative) when you observe no change in the tissue at the site of injection.
3. Enter "S" (suspect) when you observe or palpate any increase in caudal fold thickness, size, or sensitivity, at the injection site as described above.

Reactions and Interpreting Test Results

If an animal is exposed to the antigens present in bovine TB, a tuberculin injection results in a delayed hypersensitivity reaction manifested by swelling and induration at the injection site. A positive response usually begins within 8 to 12 hours and peaks about 72 hours after injection.

If the test produces any type of response, immediately notify your APHIS –VS Area Office and State animal health officials. The caudal-fold test is used as a presumptive diagnostic

procedure, and animals classified as suspect must be evaluated further by the comparative cervical (CC) test, gamma interferon test, or sent directly to slaughter under permit.

Only Federal or State regulatory veterinarians who have had specialized training may conduct the follow up testing. Follow-up testing must be performed within 10 days of the initial caudal-fold injection in cattle and bison, or the herd owner must wait 60 days (90 days for cervidae) before the follow-up test can be administered. If the CC or gamma interferon test indicates that the animal is a reactor, all further herd testing is conducted by Federal or State regulatory veterinarians.

In most areas of the United States, a caudal-fold response rate of 3 percent or greater should be expected. Improper injection or observation techniques may result in true suspects' or reactors' being missed. See the Bovine TB Eradication Uniform Methods and Rules for more information. The most current version of this VS-published document is posted at:
<<<<<**http://www.aphis.usda.gov/animal_health/animal_diseases/tuberculosis/downloads/tb-umr.pdf**>>>>>

9 CFR part 77.1 Material incorporated by reference.

Uniform Methods and Rules—Bovine Tuberculosis Eradication. The Uniform Methods and Rules—Bovine Tuberculosis Eradication (January 22, 1999, edition) has been approved for incorporation by reference into the Code of Federal Regulations by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

(a) The procedures specified in the Uniform Methods and Rules—Bovine Tuberculosis Eradication (January 22, 1999, edition) must be followed for the interstate movement of certain animals regulated under this part.

Transmissible Spongiform Encephalopathies

Transmissible spongiform encephalopathies (TSEs) are rare progressive neurodegenerative disorders that affect both humans and animals and are caused by similar uncharacterized agents that generally produce spongiform changes in the brain. Specific examples of TSEs include classical and Nor98-like scrapie, which affect sheep and goats; bovine spongiform encephalopathy, which affects cattle, and rarely other bovidae (nyala, oryx, eland, kudu, and goats), domestic and exotic cats (feline spongiform encephalopathy), humans (variant Creutzfeldt–Jakob disease), and zoo primates; transmissible mink encephalopathy; and chronic wasting disease of mule deer, white-tailed deer, black-tailed deer, elk and moose.

TSEs are insidious degenerative diseases of the central nervous system. Historically, the diagnosis of TSEs has been based on the occurrence of clinical signs of the disease, which could only be confirmed by postmortem examination of brain tissue using histopathology. More recently, identifying the presence of abnormal prion protein by various techniques has allowed preclinical diagnosis.

A characteristic feature of all TSEs is the lack of a measurable host immune response to the agent, meaning that no antibodies are produced. No conventional serologic test can be used to identify infected animals. Scientists usually diagnose TSEs in the laboratory by immunohistochemistry, western blot, or ELISA performed on brain and or lymphoid tissue which may be followed by one or more supplemental tests.

Three TSEs will be discussed in this chapter; Scrapie, Bovine Spongiform Encephalopathy, and Chronic Wasting Disease.

Scrapie

There are two types of scrapie; classical and nonclassical. Nonclassical scrapie is also referred to as atypical, Nor98, or Nor98-like scrapie. Nonclassical scrapie appears to occur sporadically and has occurred in sheep of all the common genotypes and goats. It is either not transmissible or poorly transmissible under natural conditions. Given this the scrapie eradication program focuses on classical scrapie. Here after where "scrapie" is used it is intended to mean "classical scrapie".

Scrapie is a fatal, degenerative TSE disease affecting the central nervous system of sheep and goats. First recognized as a disease of sheep in Great Britain and other countries of Western Europe more than 250 years ago, scrapie has been reported throughout the world. In the United States, scrapie has primarily been reported in the black-face meat breeds and their crosses. It also has been diagnosed in numerous other breeds and crossbreeds including wool and hair sheep, and in goats. The prevalence of scrapie in U.S. sheep was estimated to be 0.2 percent in 2002-2003 and 0.03 percent in FY 2010.

The agent responsible for scrapie and other TSEs is smaller than the smallest known virus and has not been completely characterized. There are a variety of theories regarding the nature of the agent. The most widely accepted is that disease is caused by an infectious protein, or prion, that causes the normal cellular version of the protein to change shape such that it can no longer be degraded by the cell, causing the protein to accumulate and damage the cell.

The scrapie agent is extremely resistant to heat and to normal sterilization processes. It does not evoke any detectable immune response or inflammatory reaction in host animals. The scrapie agent is thought to be spread most commonly from the ewe to her offspring and to other lambs in contemporary lambing groups through contact with the placenta and placental fluids. Signs or effects of the disease usually appear 2 to 5 years after the animal is infected but may take longer to appear. Sheep usually live 1 to 6 months after the onset of clinical signs and in some cases longer, but death is inevitable.

On the farm, veterinarians identify scrapie suspects based on the appearance of its signs combined with knowledge of the animal's history and signalment. Signs of scrapie vary widely among individual animals and develop very slowly. As the result of nerve cell damage, affected animals usually show behavioral changes, tremor (especially of the head and neck), pruritus, and locomotor incoordination, which progresses to recumbency and death. Early signs include subtle changes in behavior or temperament. These changes may be followed by scratching and rubbing against fixed objects, apparently to relieve itching. Other signs are loss of coordination, weight loss despite retention of appetite, biting of feet and limbs, lip smacking, and gait abnormalities, including high-stepping of the forelegs, hopping like a rabbit, and swaying of the back end.

An infected animal may appear normal if left undisturbed at rest. However, when stimulated by a sudden noise, excessive movement, or the stress of handling, the animal may tremble or fall down in a convulsivelike state. Several other problems can cause clinical signs similar to scrapie in sheep, including the diseases ovine progressive pneumonia, listeriosis, and rabies; the presence of external parasites (lice and mites); pregnancy toxemia; and toxins.

Testing

The official test currently used for scrapie diagnosis in the United States is immunohistochemistry. Histopathology, Western Blot, and ELISA may be used as supplemental tests or when tissues are not suitable for immunohistochemistry. Histopathology is used to identify pathological changes in the brain following necropsy. Pathological changes of scrapie are confined to the central nervous system. The lesions are characteristically found in the grey matter of the brainstem. They include neuronal vacuolation, other forms of neuronal degeneration, astrocytosis, and a vacuolar or spongy alteration called status spongiosis. Immunohistochemistry, Western Blot, and ELISA can be used to detect the abnormal prion protein in brain or lymphoid tissues.

The third-eyelid and rectal lymphoid tissue biopsy are APHIS-approved tests for scrapie detection in live animals. The tests use a biopsy of lymphoid tissue from the third eyelid or

rectum and IHC. Rectal biopsies typically have fewer samples with insufficient follicles to give a valid result and it is an easier sample to collect compared to the third eyelid. A single rectal biopsy or two third eyelid biopsies done at the same time have a sensitivity of approximately 87 percent when compared to the result of IHC testing on lymph node and brain. When animals over 14 months are tested, held and necropsied upon death the sensitivity of the third eyelid is reduced to about 70 percent as would be expected due to the long incubation period of the disease. It is likely that the rectal biopsy, if evaluated long term, would have similar results.

Identifying Affected Animals

Animals that are incubating the disease and may be shedding the agent are rarely identified until the onset of clinical signs. The only absolute way to prevent an introduction of scrapie into a flock is to prohibit all movements of sheep and goats into a flock. Until a more sensitive, cost-effective live-animal test is available, the risk can be substantially reduced by maintaining a closed ewe flock; by acquiring female animals only from certified free flocks, zones, or countries; and/or by acquiring ewes that are genetically resistant or less susceptible.

If scrapie develops in a flock, the risk of further spread, reintroduction of the disease, or both can be minimized through

- Removal of genetically susceptible exposed sheep and exposed goats;
- Live-animal testing and removal of test-positive animals;
- Breeding for genetic resistance;
- Careful cleaning and disinfection of lambing facilities;
- Improved management of animals at lambing time with particular attention to segregating them into small groups or keeping them alone when possible, maintaining the risk classification of animals in each group at the same level, and removing and incinerating placenta and soiled bedding immediately following lambing; and
- When warranted, employing embryo transfer, cesarean section, or both.

The National Scrapie Eradication Program

The National Scrapie Eradication Program has two major components: a regulatory eradication program called the Accelerated Scrapie Eradication Program (ASEP) and a voluntary certification program called the Scrapie Flock Certification Program (SFCP).

Accelerated Scrapie Eradication Program

- In September 2001, the scrapie regulations were revised to require the official identification of sheep and goats not in slaughter channels (except low-risk commercial goats) and any sheep over 18 months of age in interstate commerce with some exceptions.

In addition, the revision required States to implement and enforce official identification of most sheep and goats on change of ownership intrastate in order to move sheep and goats interstate with minimal restrictions.
• APHIS provides free official sheep and goat eartags to producers and accredited veterinarians. Call 866-USDA-TAG to request tags;
• Infected sheep are identified through active slaughter surveillance, reporting of suspect animals by producers and accredited veterinarians, testing of mature sheep or goats that die on farm or at other locations, and live-animal testing of higher risk animals;
• Effective tracing of infected animals to their flock or herd of origin and tracing and testing of exposed animals made possible as a result of the new identification requirements; and
• Providing effective cleanup strategies that will allow producers to stay in business, preserve breeding stock, and remain economically viable.

APHIS provides the following assistance to owners of exposed and infected flocks or herds that participate in cleanup plans including owners of exposed animals that have been sold out of infected and source flocks or herds:
• Indemnity for high-risk, suspect, and scrapie-positive sheep and exposed goats that owners agree to destroy;
• Genetic testing for scrapie susceptibility; and
• Scrapie testing on live or dead animals

Scrapie Flock Certification Program (SFCP)
The SFCP is a voluntary program that is open to all sheep and goat producers in the United States. The overall objective of the SFCP is to minimize the scrapie risk of participating flocks and herds, thereby improving the marketability of animals from participating flocks and herds and contributing to the national scrapie eradication program.

The SFCP has two categories: Export and Select. The Export category has two statuses (Export Monitored and Export Certified), and the Select category has one status (Select Monitored).

Export Category. The objective of this category is to certify participating flocks and herds as scrapie free establishments through annual inspections, individual animal identification (ID) requirements, recordkeeping requirements, and animal sampling requirements. Animals from Export Certified flocks are considered highly unlikely to be infected with scrapie, and have greater marketing opportunities both domestically and internationally.

Select Category. The objective of this category is to report animals with clinical signs of scrapie and to submit samples from at least one mature animal for scrapie testing every 1-3 years, depending on the size of the flock or herd. Participating flocks do not advance to a certified status.

All requirements of the SFCP are outlined in the SFCP program standards, available in electronic form at: http://www.aphis.usda.gov/animal_health/animal_diseases/scrapie/free-certi.shtml.

Role of Accredited Veterinarians in Scrapie Eradication

Accredited veterinarians play an integral role in the eradication of scrapie. Within the eradication program, they are required to report live or dead scrapie suspects to State and Federal authorities. In addition to this critical role, accredited veterinarians are the producers' primary source of education about all aspects of the program, including identification, recordkeeping, and shipping requirements. When requested by the producer, accredited veterinarians can apply official eartags, collect and submit samples for official genotype testing, scrapie testing on obex, lymph node, third-eyelid lymphoid tissue, or rectal lymphoid tissue; and issue Certificates of Veterinary Inspection for interstate movement. Additionally, accredited veterinarians play a very important role in educating producers about the disease and in assisting producers with the prevention and elimination of scrapie.

Information on the issuance of Certificates of Veterinary Inspection for sheep and goats and on identification of sheep and goats can be found in the "Sheep and Goat" section under the "Animal Movement" heading. Additional information on the APHIS National Scrapie Eradication Program may be found at:
http://www.aphis.usda.gov/animal_health/animal_diseases/scrapie
Guidance on the scrapie regulations can be found in the Scrapie Eradication Uniform Methods and Rules at :
<<<<<http://www.aphis.usda.gov/animal_health/animal_diseases/scrapie/downloads/umr_scrapie.pdf>>>>>

Bovine Spongiform Encephalopathy (BSE)

BSE, widely referred to as "mad cow disease," is a chronic degenerative TSE disease affecting the central nervous system of cattle.

History

BSE was first diagnosed in 1986 in Great Britain. Since then, more than 185,000 cases have been confirmed worldwide. More than 95 percent of these have occurred in the United Kingdom, but the disease has also been confirmed in native-born cattle in the following countries: Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Ireland, Israel, Italy, Japan, Luxembourg, Liechtenstein, the Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Switzerland, and the United States.

Three cases of BSE have been identified in the United States. The first case was detected in 2003 in Washington State in a 6 year-old dairy cow imported from Canada. The second, in 2005, was a 12 year-old beef cow in Texas. The third, in 2006, was a 10 year-old beef cow in Alabama. As a result, U.S. beef exports dropped 80% in 2004 and have not yet fully recovered.

Clinical Course

Cattle affected by BSE experience progressive degeneration of the nervous system. Affected animals may display changes in temperament (nervousness or aggression), abnormal posture, incoordination and difficulty in rising, decreased milk production, or loss of condition without noticeable loss of appetite. There is no treatment or vaccine to prevent BSE. The incubation period is from 2 to 8 years. Following the onset of clinical signs, the animal's condition deteriorates until it either dies or is destroyed. This process usually takes from 2 weeks to 6 months.

Etiologic Agent and Tissue Distribution

The agent responsible for BSE has not been completely characterized. There are a variety of theories regarding the nature of the agent. The most widely accepted is that disease is caused by an infectious protein, or prion, that causes the normal cellular version of the protein to change shape such that it can no longer be degraded by the cell, causing the protein to accumulate and damage the cell.

The BSE agent is extremely resistant to heat and to normal sterilization processes. It also does not evoke any detectable immune response or inflammatory reaction in host animals. In cattle naturally infected with BSE, evidence of disease has been found only in brain

tissue, in the spinal cord, and in the retina. In experimentally infected cattle, the distal ileum, bone marrow, dorsal root ganglion, and trigeminal ganglion from experimentally infected cattle were also found to be infective.

Transmission

BSE is not a contagious disease and therefore is not spread through casual contact between cattle or with other species. The primary source of BSE infection in cattle is commercial feed contaminated with the infectious agent. Scientific evidence shows that feed contamination results from incorporating ingredients (for example, meat-and-bone meal) that contain protein derived from rendered infected cattle. Standard rendering processes do not completely inactivate the BSE agent. Therefore, rendered protein such as meat-and-bone meal derived from infected animals may contain the infectious agent. The preferred method for disposal of BSE-infected carcasses is alkaline digestion or complete, high-temperature incineration. Under no circumstances should BSE suspects be used for human or animal consumption.

Testing

Currently, there is no validated test to detect the disease in a live animal. BSE testing is done by examining the obex portion of the brain stem for the accumulation of abnormally folded prion protein. BSE screening is generally done by enzyme-linked immunosorbent assay (ELISA) on fresh tissue. BSE can be confirmed by immunohistochemistry or Western Blot. Histopathology may also be utilized to look for spongiform changes in brain stem tissue that are characteristic of the TSEs.

The accumulation of abnormal prion protein material and other changes in brain stem tissue that are diagnostic for BSE are not apparent in the early stages of the disease. Thus, the failure to detect BSE is not equivalent to a negative test or the absence of infectivity. Current testing methods are surveillance tools only. They are not intended to protect human health or animal health nor can they guarantee food safety.

Surveillance

BSE surveillance has been conducted in the United States since 1990. After the initial case of BSE was detected in the United States in late 2003, APHIS conducted a BSE Enhanced Surveillance Program from 2004 to 2006. This was a one-time intensive effort to detect BSE if present at a very low level and to provide information about prevalence. More than 830,000 animals were tested. Subsequent data analysis indicated that the prevalence of BSE in the U.S. was very low—less than one infected animal per million based on a population of 42 million adult cattle.

Beginning in 2006, the BSE Ongoing Surveillance Program was implemented. This program was developed to meet not only the World Organization for Animal Health (OIE) surveillance standard of detecting one case of BSE per 100,000 adult cattle with 95% confidence, but also the more stringent U.S. standard of detecting one case of BSE per one million adult cattle with 95% confidence. Both standards are based on a point system that reflects the likelihood of finding BSE. The BSE Ongoing Surveillance Program focuses on populations of cattle at higher risk for BSE, including those of any age with CNS signs and those over 30 months of age that are condemned on antemortem inspection at slaughter. Since 2006, more than 40,000 samples have been tested per year resulting in point totals that far exceed both the OIE and U.S. requirements.

Eradication and Control Efforts

Agricultural officials in the United Kingdom and other countries affected with BSE have taken actions to eradicate or control the disease. These entail prohibiting the inclusion of mammalian meat-and-bone meal in animal feed; prohibiting the use of specified risk materials or SRMs (those tissues, e.g., brain and spinal cord, known to have the highest infectivity) in food, feed, or other products; and destroying animals showing signs of BSE and other animals at high risk of developing the disease. As a result of these actions, most notably the imposition of feed bans, the rate of newly reported cases of BSE in the United Kingdom has greatly decreased.

In 1997, the U.S. Food and Drug Administration (FDA) implemented regulations that prohibit the feeding of most mammalian proteins to ruminants, including cattle. This feed ban is the most important measure to prevent the transmission of disease to cattle. In 2008, the ban was strengthened by prohibiting the inclusion of SRMs (brains and spinal cords from animals 30 months of age or older) in any animal feed. The 2008 rule also prohibits the use of entire carcass of cattle not inspected and passed for human consumption, unless the cattle are less than 30 months of age, or the brains and spinal cords have been removed.

Public Health Significance

In March 1996, the United Kingdom's Spongiform Encephalopathy Advisory Committee (SEAC) announced the identification of 10 cases of variant Creutzfeldt-Jakob disease (vCJD) in people. These cases had a characteristic clinical and pathological phenotype that differed from other routinely diagnosed cases of classic (sporadic) CJD. SEAC concluded, and scientific evidence later confirmed, that these cases were linked to exposure to BSE before the feed bans were implemented.

In the United States, public or human health protective measures are maintained by both the Food Safety and Inspection Service (FSIS) and the FDA. The most important public health protective measure is the removal of SRMs from the human food supply. Other controls include banning nonambulatory disabled cattle from the human food chain; prohibiting air-injection stunning of slaughter cattle; requiring additional process controls in advanced meat-recovery systems; and forbidding the use of mechanically separated meat in human food. Additionally, protection from BSE and other disease is achieved through antemortem inspection of slaughter cattle and the exclusion from slaughter of animals with any clinical signs of neurological disease or other abnormalities.

Identifying Affected Animals

Beginning in 1989, APHIS prohibited the importation of ruminants and most ruminant products from countries that had identified BSE in native cattle or that were at risk for BSE. An ongoing, comprehensive interagency surveillance program for BSE has been in place in the U.S. since 1990. APHIS also supports the FDA's regulation prohibiting the use of most mammalian proteins in ruminant feed. Currently, USDA allows the importation of some animals and commodities under permit or by regulation from minimal BSE-risk countries.

Because of the clinical history that can be obtained, samples collected on the farm from cattle exhibiting symptoms of central nervous system disease are particularly valuable to the BSE Ongoing Surveillance Program efforts in the United States. Accredited veterinarians with proper training can play a key role in the sampling of these animals and should contact their VS area office for more information. BSE is a reportable disease. Any suspicious cases should be reported to the APHIS – VS Area Office or the State animal health official as a suspected foreign animal disease (FAD).

Chronic Wasting Disease (CWD)

CWD is a TSE of cervids in the genera *Odocoileus, Cervus, and Alces*. Known susceptible species are white tailed deer, mule deer, black tailed deer, Rocky Mountain elk, and moose. Transmission studies involving direct or indirect contact between CWD infected deer and elk, and other ruminant species including wild ruminants and domestic cattle, sheep, and goats have shown no evidence of transmission of CWD to these other ruminant species.

First recognized as a clinical "wasting" syndrome in 1967 in mule deer in a wildlife research facility in northern Colorado, it was identified as a TSE in 1978. CWD is typified by chronic weight loss leading to death. There is no known relationship between CWD and any other TSEs of animals or people.

In the mid-1980s, CWD was first detected in free-ranging deer and elk in contiguous portions of northeastern Colorado and southeastern Wyoming. In May 2001, CWD also was found in free-ranging deer in the southwestern corner of Nebraska (adjacent to Colorado and Wyoming). At that time, the limited area of northern Colorado, southern Wyoming, and western Nebraska in which free-ranging deer and elk positive for CWD have been found was referred to as the original endemic area.

Since 2002, CWD has been identified in free-ranging cervid populations in 15 States: Colorado, Illinois, Kansas, Maryland, Minnesota, North Dakota, Nebraska, New York, New Mexico, South Dakota, Utah, Virginia, Wisconsin, West Virginia, and Wyoming. The first CWD-positive free-ranging moose was identified in Colorado in 2005.

Since 1997, CWD has been found in farmed cervids (white-tailed deer and elk) in 11 States: Colorado, Kansas, Michigan, Minnesota, Missouri, Montana, New York, Oklahoma, South Dakota, and Wisconsin. As of 2011, only Colorado and Nebraska have CWD positive farmed herds.

Like the causative agents of scrapie and Bovine Spongiform Encephalopathy (BSE), the agent responsible for CWD has not been completely characterized. The CWD agent is thought to be an abnormal prion protein. It is smaller than most viral particles and does not evoke any detectable immune response or inflammatory reaction in the host animal. On the basis of experience with other TSE agents, the CWD agent is assumed to be resistant to enzymes and chemicals that normally break down proteins as well as to heat and normal disinfection procedures.

Clinical Signs

CWD has been reported to occur in susceptible cervids 12 months of age and older. The disease is progressive and always fatal. The most obvious and consistent clinical sign of CWD is long-term weight loss with loss of body condition. Behavioral changes also occur in the majority of cases, including decreased interactions with other animals in the pen, listlessness, depression, lowering of the head, blank facial expression, and repetitive walking in set patterns within the pen. In elk, behavioral changes may also include hyperexcitability and nervousness. Affected animals continue to eat grain but may show decreased interest in hay. Victims salivate excessively and grind their teeth. Most deer show increased drinking and urination.

Testing

Currently, definitive diagnosis is based on IHC testing of the obex area of the brain stem or the medial retropharyngeal lymph nodes. Gross lesions seen at necropsy reflect the clinical

signs of CWD, primarily emaciation and sometimes aspiration pneumonia, which may be the cause of death. On microscopic examination, lesions of CWD in the central nervous system resemble those of other spongiform encephalopathies. At this time, abnormal prion proteins are detected using IHC, Western blotting, and enzyme-linked immunosorbent assay (ELISA). New technologies may provide additional means of detecting abnormal prion proteins in the future. Research is being conducted to develop live-animal diagnostic tests for CWD. The rectal biopsy test, while not yet validated by NVSL for regulatory testing, appears promising but may have limited applicability due the number of positive animals in the early stages of the disease that may not be detected.

Official CWD tests are performed only at APHIS-approved university, State, or Federal veterinary diagnostic laboratories. If the animal to be tested is a farmed deer or elk, accredited veterinarians should check with Federal or State regulatory veterinarians for information on sample collection and appropriate sample submission. If the animal to be sampled is a wild deer or elk that is suspected of having CWD, accredited veterinarians should inform State and Federal authorities and work with their State wildlife management agency to find out how officials would like the sample collected and submitted. Check with the State animal health official or APHIS –VS Area Office to determine whether CWD testing is being conducted in hunter-harvested deer. However, the wildlife management agencies have other alternatives they may choose to use as well.

If the animal to be sampled is a clinically normal wild animal that an individual hunter would like tested, accredited veterinarians should also work with their State wildlife management agency or department of agriculture to find out how best to proceed. Several approved laboratories exist with sufficient capacity to provide fee-for-service testing for samples collected by individual hunters. Accredited veterinarians should always check with the diagnostic laboratory to make sure samples are properly collected, packaged, and shipped.

Disposal

Horizontal transmission of CWD has been demonstrated from environments contaminated with CWD-positive organic materials. Therefore, the proper disposal of potentially CWD-infected tissues is an important factor in reducing the risk of CWD transmission. Carcass and tissue disposal options may be regulated by the Environmental Protection Agency (EPA), FDA, or State or local authorities. Accredited veterinarians should check with these entities first before disposing of a suspect or positive carcass.

Management

APHIS has provided assistance to State officials in diagnosing CWD and in monitoring international and interstate movements of animals to help prevent further spread of CWD. An extensive nationwide surveillance effort was started in 1997–98 to better define the geographic distribution of CWD in free-ranging cervids.

Surveillance for CWD in farmed cervids began in 1997 and has been a cooperative effort involving State agriculture and wildlife agencies and APHIS. Farmed cervid surveillance has been increasing each year since 1997 and will be an integral part of the USDA program to prevent and control CWD in farmed cervid herds and wild cervid populations.

In 2002, at the request of Congress, USDA and the U.S. Department of the Interior to worked with the States to create a national plan to assist States, Federal agencies, and Indian tribes in addressing CWD in both farmed and wild animals. Involved agencies continue to work toward the implementation of this plan as existing budgets allow.

Specifically, USDA has continued to develop a national herd-certification program with a goal to eliminate CWD in farmed cervids. The program includes requirements for premises fencing, animal identification, animal inventory, and continued surveillance testing for herd advancement. After 5 years of continual surveillance with no evidence of disease, a herd is considered to be certified

Additional information about CWD can be found at the CWD website at:
http://www.aphis.usda.gov/animal_health/animal_diseases/cwd/

Poultry

National Poultry Improvement Plan (NPIP)

The NPIP is a voluntary State–Federal cooperative testing and certification program for poultry breeding flocks, baby chicks, poults, hatching eggs, hatcheries, and dealers. It became operative in 1935 with a three-pronged focus on certifying breeding stock, bird performance, and the elimination of bacillary white diarrhea (caused by *Salmonella pullorum).* The objective of the NPIP is to provide a cooperative State–Federal program through which new technology can effectively be applied to the improvement of poultry and poultry products by establishing standards for the evaluation (testing) of poultry breeding stock, baby chicks, poults, and hatching eggs with respect to freedom from certain diseases.

The diseases covered by the NPIP are avian influenza (fowl plague) and those produced by *S. pullorum* (pullorum disease), *S. gallinarum* (fowl typhoid), *S. enterica* var. *enteritidis, Mycoplasma gallisepticum* (MG, chronic respiratory disease, and infectious sinusitis in turkeys), *M. synoviae* (MS, infectious synovitis), and *M. meleagridis* (MM, day-old airsacculitis). In addition, the NPIP has programs such as "U.S. Salmonella Monitored" and "U.S. Sanitation Monitored" that are intended to reduce the incidence of salmonella organisms in hatching eggs, chicks, and poults through effective and practical sanitation procedures at the breeder farm and in the hatchery.

Poultry is defined in the NPIP as domesticated fowl, including chickens, turkeys, ostriches, emus, rheas, cassowaries, waterfowl, and game birds (except doves and pigeons) that are bred primarily to produce eggs and meat. Three types of participants are involved in the NPIP: independent flocks, hatcheries, and dealers. The poultry products certified by the NPIP are hatching eggs, baby chicks, poults, and started pullets. The vast majority of U.S. States prohibit the entry of any poultry shipments except those designated pullorum-typhoid clean. Essentially, such bans mean that poultry moving interstate should participate in the "U.S. Pullorum-Typhoid Clean" program of the NPIP or be tested negative for pullorum-typhoid before leaving their home State. Fifteen States require that all shipments of turkeys they receive be MG clean. Essentially, that requirement means that turkeys moving interstate should participate in the "U.S. MG Clean" program of the NPIP or be tested free of MG before shipment.

Most U.S. trading partners importing poultry and products from the United States also require NPIP participation. Accredited veterinarians may be requested to inspect breeder

flocks participating in the NPIP for compliance with the standards and to issue health certifications. Every spring, APHIS publishes a directory of participants handling egg-type and meat-type chickens and turkeys and a directory of participants handling waterfowl, exhibition poultry, game birds, and ratites. These directories list hatcheries, independent flocks, and dealers participating in the NPIP, the products that they handle, and the disease classifications that they participate in.

Other information about the program can be obtained from the:
NPIP, USDA–APHIS –VS
1506 Klondike Rd, Suite 300
Conyers, GA 30094
Information can also be obtained on the NPIP Web site:
http://www.aphis.usda.gov/animal_health/animal_dis_spec/poultry/

Avian Influenza (AI)

AI viruses are classified by a combination of two groups of proteins: the hemagglutinin or H proteins, of which there are 16 (H1-H16), and neuraminidase or N proteins, of which there are 9 (N1-N9). Many strains of avian influenza (AI) virus exist worldwide. These viruses affect chickens, turkeys, pheasants, quail, ducks, geese, and guinea fowl as well as a wide variety of free-flying species. Migratory waterfowl have been shown to be a natural reservoir for AI. AI strains also are divided into two groups based upon the ability of the virus to produce disease.

Low Pathogenicity or "low path" Avian Influenza (LPAI)

LPAI occurs naturally in wild birds and can spread to domestic birds. In most cases it causes no signs of infection or only minor symptoms in birds. These strains of the disease pose little significant threat to human health. These strains are common in the U.S. and around the world.

Highly Pathogenicity or "high path" Avian Influenza (HPAI)

HPAI is often fatal in chickens and turkeys. HPAI spreads rapidly and has a high death rate in birds than LPAI. HPAI has been detected and eradicated three times in U.S. domestic poultry. HPAI H5N1 is the subtype rapidly spreading in some parts of the world. Most of the highly pathogenic AI viruses fall under types H5 or H7; however, most AI infections, including those typed as H5 or H7, are clinically of low pathogenicity. These typically produce few or no clinical signs in affected birds. Sometimes the only evidence of this virus

is a minor increase in bird mortality. Aside from the possible mutation of low-pathogenicity strains under field conditions into high-pathogenicity strains, the presence of low-pathogenicity virus can also result in restrictions on exports and serious repercussions on the production economy. Avian Influenza of H5 and H7 subtypes are known as Notifiable Avian Influenza (NAI). APHIS works to keep NAI from becoming established in U.S. poultry populations.

Identifying Infected Birds

Birds infected with the HPAI virus may show one or more of the following signs:

- Sudden death without clinical signs;
- Lack of energy and appetite;
- Decreased egg production or soft-shelled or misshapen eggs;
- Swelling of head, comb, eyelid, wattles, and hocks;
- Purple discoloration of wattles, comb, and legs;
- Nasal discharge, coughing, and sneezing;
- Incoordination; or
- Diarrhea.

Epidemiology

HPAI can strike poultry quickly and spread rapidly from premises to premises. Migratory waterfowl can introduce the disease to U.S. poultry. International visitors or smuggled birds are also risk factors. Once introduced, the disease spreads from bird to bird by direct contact or through contact with contaminated manure, equipment, vehicles, crates, and the clothing or shoes of individuals who have come in contact with the virus. The virus remains viable in the environment for long periods, particularly at lower temperatures, and it can survive indefinitely in frozen material.

Biosecurity Measures on the Farm

Veterinarians should work with poultry producers to strengthen biosecurity practices. Established and enforced biosecurity protocols will help prevent introduction of HPAI and other infectious agents. Recommended biosecurity measures include

- Establishing an “all-in, all-out” flock-management policy;
- Protecting against exposure to wild birds or water or ground contaminated by wild birds;
- Closing bird areas to nonessential personnel or vehicles;
- Providing employees with clean clothing and disinfection facilities and directions for their use;
- Thoroughly cleaning and disinfecting equipment and vehicles (including tires and undercarriage) when entering or leaving the farm;
- Banning the borrowing or lending of equipment or vehicles;

• Banning visits to other poultry farms, exhibitions, fairs, and sales or swap meets (if visits must occur, direct workers to change footwear and clothing on their return); and
• Banning bringing birds in slaughter channels back to the farm.

Reporting Suspicious Diseases
Practitioners are encouraged to educate their poultry clientele and pet bird owners to report all signs of disease. If signs of disease resemble AI or cannot be diagnosed, they should immediately be reported to both the Veterinarian-in-Charge and the State Animal Health Official.

Exotic Newcastle disease (END)

END is a contagious and fatal disease affecting all species of birds. Previously known as velogenic viscerotropic Newcastle disease, END is one of the most infectious diseases of poultry in the world. The mortality in unvaccinated birds can reach 100 percent, and birds may die without any clinical signs of disease. Though recommended and widely used, vaccination does not fully protect against END and may obscure the disease, resulting in further spread.

Identifying Affected Birds

END affects the respiratory, digestive, and nervous systems. The incubation period ranges from 2 to 15 days. An infected bird may exhibit some or all of the following signs:
• Sneezing, gasping, nasal discharge, coughing;
• Greenish, watery diarrhea;
• Depression, muscular tremors, droopy wings, opisthotonus, circling, and complete paralysis;
• Partial to complete drop in egg production and thin-shelled eggs;
• Swelling of tissues around the eyes and in the neck;
• Sudden death; and
• Increased flock mortality.

Epidemiology

END is spread primarily through direct contact with droppings and nasal, ocular, or oral secretions of infected birds. The virus is present in high concentrations in body fluids and discharges and spreads rapidly through birds in confinement. The virus can be carried from one premises to another on contaminated shoes and clothing of service crews and visitors and their contaminated vehicles. END virus survives for several weeks in a warm and humid environment on feathers and in manure and other materials and can survive

indefinitely in frozen material. It is rapidly destroyed by dehydration and ultraviolet rays. Smuggled psittacines, especially Amazon parrots from Latin America, pose great risks for introducing the virus into the United States. These parrots are asymptomatic carriers and can carry the virus for up to 400 days.

Biosecurity Measures on the Farm

Veterinarians should work with poultry producers to strengthen biosecurity practices. Established and enforced biosecurity protocols will help prevent introduction of END and other infectious agents. Recommend biosecurity measures include:

- Establishing an "all-in, all-out" flock-management policy;
- Protecting against exposure to wild birds or water or ground contaminated by wild birds;
- Closing bird areas to nonessential personnel or vehicles;
- Providing employees with clean clothing and disinfection facilities and directions for their use;
- Thoroughly cleaning and disinfecting equipment and vehicles (including tires and undercarriage) when entering or leaving the farm;
- Banning the borrowing or lending of equipment or vehicles;
- Banning visiting other poultry farms, exhibitions, fairs, and sales or swap meets (if visits must occur, direct workers to change footwear and clothing on their return); and
- Banning bringing birds in slaughter channels back to the farm.

Reporting Suspicious Diseases and Illegal Bird Movements

Veterinarians may receive information regarding illegal introductions of birds from countries at risk for END. All such incidents should immediately be reported to both the Veterinarian-in-Charge and the State Animal Health Official. Once END has been introduced, the only way to eradicate it is through depopulation, cleaning and disinfection, and strict quarantine. Practitioners are encouraged to educate their poultry clientele and petbird owners to report all signs of disease. If signs of disease resemble END or cannot be diagnosed, they should immediately be reported to the AVIC or State animal health official.

Horses

Equine Infectious Anemia (EIA)

EIA is an infectious and potentially fatal viral disease of members of the horse family. The equine infectious anemia virus (EIAv) is categorized as a retrovirus: it contains genetic RNA material, which it uses to produce DNA. The DNA is then incorporated into the genetic makeup of infected cells. There is no vaccine or treatment for the disease. It is often difficult to differentiate from other fever-producing diseases, including anthrax, influenza, and equine encephalitis.

Clinical Forms

Acute—When horses are exposed to EIAv, they may develop severe, acute signs of disease and die within 2 to 3 weeks. This form of the disease is the most damaging and the most difficult to diagnose because the signs appear rapidly, and often only an elevated body temperature is noted. One-fifth of a teaspoon of blood from a horse with acute EIA contains enough virus to infect a million horses. Clinical signs of acute infectiousness are rather nonspecific; in mild cases the initial fever may be short lived (often less than 24 hours). Horse owners and veterinarians may not observe this initial response when a horse is infected with EIAv. Horses often recover and continue to move freely in the population. The first indication that a horse was exposed to, and infected with, EIAv may be a positive result on a routine annual test.

Chronic—If the horse survives the first acute bout, it may develop a recurring clinical disease with most or all of the following signs:

- Fever: An infected horse's temperature may rise suddenly to 40.5 ℃ (105 ℉) or, rarely, as high as 42.2 ℃ (108 ℉) but may then drop back to normal for an indeterminate period until the onset of another episode.
- Petechial hemorrhages: Minute blood-colored spots appear on the mucous membranes.
- Depression: A horse appears more or less dejected (head hangs low) and generally listless.
- Weight loss: A horse may refuse feed or may eat an inordinate amount but still continue an obvious decline from normal weight.
- Dependent edema: A horse may develop swelling, which is evidence of fluid collecting under the skin in the legs and under the chest and other underbody surfaces.
- Anemia: The horse's blood may manifest a marked drop in its red corpuscle count and appear thin and watery. The animal may also have an irregular heartbeat, and a jugular pulse may become evident.

Inapparent—The majority of horses are inapparent carriers: they show no overt clinical abnormalities as a result of infection. These animals survive as reservoirs of the infection for extended periods. Inapparent carriers have dramatically lower concentrations of EIAv in their blood than horses with active clinical signs of the disease. Only 1 horse fly out of 6 million is likely to pick up and transmit EIAv from such horses. All horses infected with EIAv are thought to remain virus carriers for life. The inapparent form may become chronic or acute owing to severe stress, hard work, or the presence of other diseases.

Transmission

EIA is a classic blood-borne infection. People have played an important role in EIAv transmission over the years by using blood-contaminated materials on different horses. But the EIAv is most often transmitted between horses in close proximity by large biting insects such as horse flies or deer flies. The bites from these flies stimulate defensive movement by the horse, which often results in an interruption of the bloodfeeding. When interrupted, the fly is motivated to complete the feeding as soon as possible. It then attacks the same or a second host and feeds to repletion. Any infective material from the blood of the first host present on the mouthparts of the insect can be mechanically transmitted to the second host. Insect transmission of EIAv is dependent on the number and habit of the insects, the density of the horse population, the number of times the insect bites the same and other horses, the amount of blood transferred between horses, and the level of virus obtained in the blood meal.

Prevention

The AGID, or Coggins, test has been shown to correlate with horse inoculation test results for EIAv and therefore can be used to identify EIAv carriers. Although other serologic tests have been defined and approved for the diagnosis of EIA, the AGID test is recognized internationally as the “gold standard” serologic test. The use of AGID and additional tests has assisted in the control of EIA. Presently, USDA recognizes the AGID and a number of ELISA formats for conducting official tests.

Controlling the spread of EIAv involves minimizing or eliminating contact of healthy horses with the secretions, excretions, and blood of EIAv-infected horses. Once the reservoirs of EIAv are identified, separated, and maintained a safe distance from the other horses, the transmission of EIAv is broken. Until all horses are tested, precautions should be taken to prevent commingling with horses that do not originate from test-negative farms or that have been exposed to test-positive horses. All diagnostic laboratories are required to report positive test results to Federal and State authorities for appropriate action.

When an equine has a positive result on an official test for EIA, the animal must be placed under quarantine within 24 hours after positive test results are known in order to permit confirmation testing and to prevent further exposure of other equines. The equine must remain in quarantine until final classification and disposition are made.

All exposed equines (either individual or within a herd) within 200 yards of the location where a reactor equine is or was maintained must also be placed under quarantine. The quarantine area must provide no less than 200 yards of separation from all other equines. The quarantine area and the quarantined equines therein must be monitored periodically by regulatory personnel to ensure that provisions of the quarantine are not being violated. Additional information regarding the control program may be obtained by contacting your local APHIS –VS Area Office.

Additional information may be found at the EIA web site:
http://www.aphis.usda.gov/animal_health/animal_diseases/eia/

The most current version of the EIA Uniform Methods and Rules may be found at:
http://www.aphis.usda.gov/vs/nahss/equine/eia/eia_umr_jan_10_2007.pdf

Equine Viral Arteritis (EVA)

EVA is an infectious viral disease of horses that causes a variety of clinical symptoms—most significantly abortions. The disease is transmitted through both the respiratory and reproductive systems. Many horses with the disease are asymptomatic, and others exhibit flulike symptoms for short periods. In mares, abortions are among the first, and in some cases, only signs of the disease. EVA has been confirmed in a variety of horse breeds, and the highest infection rate is found in adult standardbreds.

Breeders, racehorse owners, and owners of show horses all have strong economic reasons to prevent and control this disease. Although it does not kill mature horses, EVA can virtually eliminate an entire breeding season by causing a high percentage of mares to abort. In addition, U.S. horses that test positive for EVA antibodies and horse semen from EVA-infected horses can be barred from entering foreign countries. As the horse industry becomes increasingly internationalized, nearly all major horse breeding countries are enforcing import policy measures to reduce the risk of EVA.

Transmission

EVA is primarily a respiratory disease. Healthy horses can inhale particles in the nasal discharges from acutely infected horses during movements at sales, shows, and racetracks. Because horses are herd animals that tend to commingle, this close contact facilitates the spread of the virus.

EVA can also be transmitted venereally during breeding—either naturally or by artificial insemination. When a mare, gelding, or sexually immature colt contracts the disease, the animal will naturally eliminate the virus and develop a strong immunity to reinfection. Infected stallions, on the other hand, are very likely to become virus carriers for a long time. Once stallions are in the carrier state, they transmit the virus to mares during breeding.

Although the mare will eliminate the virus easily, a pregnant mare infected with EVA may pass the virus to her unborn fetus. As determined by the stage of the pregnancy, the fetus can become infected, die, and be aborted. If the infected foal is born, it will live for only a few days.

Clinical Signs

Many horses infected with EVA are asymptomatic. When clinical signs do appear in the acute stage of the disease, they can include any or all of the following: fever, nasal discharge, loss of appetite, respiratory distress, skin rash, muscle soreness, conjunctivitis, and depression. Other clinical signs are swelling around the eyes and ocular discharge, swollen limbs, swollen genitals in stallions, and swollen mammary glands in mares. Abortion in pregnant mares is also a symptom of EVA. Abortion rates in EVA-infected mares range from 10 percent to 70 percent.

Diagnosis

Horse owners should suspect EVA when respiratory symptoms accompany an abortion in a mare. Because the clinical signs of EVA are similar to those of other respiratory disease and no characteristic lesions are found in EVA-aborted fetuses, only diagnostic tests can confirm the disease. Virus isolation can be attempted from swabs of the nose, throat, or eyes; semen, placentas, or fetal tissue; and blood samples. The most common method of diagnosis is testing blood for the neutralizing antibodies of the virus. Although presence of these antibodies alone does not indicate active infection, it does signify that EVA exposure has occurred. The signs of active infection are very high levels of antibodies on a single sample or a rising antibody titer from paired blood samples collected 14 to 28 days apart.

Treatment

Although there is no specific treatment for EVA, care should include rest and, in selected cases, antibiotics, which may decrease the risk of secondary bacterial infection. Adult horses recover completely from the clinical disease. However, the virus commonly persists in the accessory glands of recovered stallions, and thus these carrier stallions continue to shed the virus for years and remain a significant source of infection.

Prevention

A safe, effective, and low-cost avirulent live-virus vaccine is now available. Combining this vaccine with isolation of the vaccinated animal from noninfected horses can prevent the spread of EVA. Because properly vaccinated EVA-negative stallions do not become carriers, all EVA-negative colts less than 270 days old should be vaccinated. The vaccine is not approved for use in pregnant mares. All vaccinated horses should receive yearly boosters to protect against infection and, for the stallions, to prevent the development of a carrier state.

The EVA Uniform Methods and Rules contain minimum standards for detecting, controlling, and preventing EVA. These may be obtained by contacting your local APHIS-VS Area Office or found at:
http://www.aphis.usda.gov/animal_health/animal_diseases/eva/downloads/eva-umr.pdf

Slaughter Horse Transport Program (SHTP)

New regulations for the transportation of horses to slaughter became effective on December 7, 2001. These regulations fulfill USDA's responsibility under the 1996 farm bill to ensure the proper care of horses without inhibiting the commercially viable transport of these animals to slaughter facilities. The regulations address the food, water, and rest that must be provided to the animals. Owner–shippers of horses are required to take certain actions in loading and transporting the animals and, in addition, certifying that the commercial transportation meets certain requirements by completing the owner–shipper certificate. Special backtags, available from the APHIS –VS Area Office, are required to identify the slaughter horses during transport.

In addition, the 2001 regulations prohibit the commercial transportation to slaughter facilities of horses considered to be unfit for travel, the use of electric prods, and, beginning in 2006, the use of double-deck trailers.

The program activities have been aimed at ensuring that truckers, horse owners, stakeholders, and slaughter-plant personnel within the United States, Mexico, and Canada

are conversant with the new regulations and their implementation. APHIS –VS developed and distributed a guidebook, video, truckers' leaflet, posters, and a revised owner– shipper certificate with instructions. These materials provide useful information and guidance to stakeholders involved in handling or transporting horses to slaughter.

This information is available from the APHIS Web site at
http://www.aphis.usda.gov/animal_health/animal_dis_spec/horses/horse_transport.shtml
or may be obtained in hard copies from the APHIS –VS Area Office at:
http://www.aphis.usda.gov/animal_health/area_offices/

Aquatic Animal

APHIS provides agricultural producers with a broad range of cooperative programs for protecting the health of animals and plants. Aquaculture, the managed production of aquatic plants and animals, is one of the fastest growing segments of U.S. agribusiness. Because of this rapid expansion, accredited veterinarians are becoming integral to the practice of aquaculture.

APHIS programs currently serve important aspects of both plant and animal aquaculture—especially involving disease control and eradication, pest prevention, and wildlife damage management. APHIS is also involved in facilitating the import and export of aquacultural products because of increased global trade

APHIS –VS is one of three Federal agencies developing a National Aquatic Animal Health Plan (NAAHP) under the auspices of the Joint Subcommittee on Aquaculture (JSA). The JSA, a Federal interagency group authorized by the National Aquaculture Act, serves to coordinate aquaculture efforts in the various Federal agencies. The JSA has many task forces.

The National Aquatic Animal Health Task Force (NAAHTF) has been charged to develop the NAAHP. The rationale for developing such a plan is to protect our country's wild and cultured resources, support efficient aquaculture, achieve efficient and predictable commerce, and meet the United States' national and international trade obligations.

It is expected that accredited veterinarians will play a role in carrying out APHIS activities as they relate to aspects of the NAAHP.

More information may be found on the APHIS NAAHP web page:
http://www.aphis.usda.gov/animal_health/animal_dis_spec/aquaculture/

National Aquatic Animal Health Activities

APHIS – VS is involved in several activities related to the health of aquatic animals. Those activities can generally be divided into two overarching components:

(1) aquatic animal-health certification procedures for aquatic animals and products that are exported internationally and require attestations by the National competent authority APHIS -VS.

(2) regulations for the importation and interstate movement of aquatic animals and products and the maintenance development of a laboratory network to support the movement of healthy aquatic animals.

These two complementary aspects of the program ensure that diseases notifiable to the World Organization for Animal Health (OIE) will be reported and appropriate control measures can be enacted.

Accredited veterinarians have a vital role in certifying documents based on information gathered from farm inspections, onsite sample collections and laboratory submissions. In many cases, aquatic animal health management is provided by accredited veterinarians for a variety of aquaculture commodities including the tropical and ornamental fish, crustaceans, mollusks, amphibians, and aquatic reptiles.

Animal Health Emergency Management

General

The strength and success of the U.S. agricultural economy is due in large part to the bonds forged by Government, veterinarians, and producers in preventing, controlling, and eradicating foreign animal diseases (FADs). In an era characterized by unprecedented levels of international transportation and trade, the threats posed by FADs (either accidentally or intentionally introduced) have never been greater.

FADs can enter the United States accidentally through the importation of infected animals or animal products. Such diseases can be carried inadvertently into our country via contaminated clothing, shoes, or other objects. FADs can also be introduced as an act of terrorism. Once introduced, an FAD may be very difficult to control and eradicate because of the high potential for animal exposure from high livestock concentrations and movements of market-bound animals. Pathogens spread by wildlife can pose an additional problem for control and eradication.

Even a single case of an FAD like foot-and-mouth disease (FMD) would have a considerable negative impact on the U.S. economy due to the international and interstate restrictions that would be imposed on the trade of livestock and livestock products. The spread of a FAD would have impacts that could include the failure of individual farms and potential effects on other segments of the U.S. economy. Other significant costs would be incurred in the course of controlling the spread of disease pathogens by animal depopulation or vaccination, cleaning and disinfecting livestock environments, and disposing of animal carcasses. These activities also generate concern about the environment. In addition to impacts on the economy and the environment, many FADs are zoonotic and therefore also present potentially significant threats to public health.

Outbreaks of FADs in the United States (Venezuelan equine encephalomyelitis in 1971, exotic Newcastle disease in 1971-73 and 2002–03, highly pathogenic avian influenza (HPAI) in 1983-84), and overseas (FMD in the United Kingdom in 2001, Japan in 2010, and North and South Korea in 2010-11; HPAI H5N1 in Asia, Africa, and Europe from 2003 to 2011), have underscored the dangers these diseases pose to U.S. livestock and poultry. Our livestock, poultry, and wildlife populations have little or no immunity to such diseases, which, if introduced, could cause potentially catastrophic losses to the American animal industry and even threaten the availability of the safe, wholesome, affordable, abundant food supply Americans currently enjoy.

APHIS Veterinary Services safeguards U.S. poultry and livestock from the introduction, establishment and spread of FADs. This involves regular health surveillance of our domestic animal herds and flocks, as well as monitoring of animal disease outbreaks around the world. APHIS also works with other Federal agencies at airports and maritime ports to inspect and approve incoming shipments of animals and animal products. More information on APHIS animal health emergency management can be found at: **www.aphis.usda.gov/animal_health/emergency_management.**

Emergency Response Structure

In the event of a major animal health emergency in the United States, the appropriate local, State, Tribal, and Federal governments, and their partners (such as industry) in the private sector, must respond in a coordinated, mutually supportive manner to (1) determine the nature of the disease outbreak or other emergency, (2) initiate an appropriate response (e.g., eliminate or control disease), and (3) help facilitate recovery (e.g., the resumption of business and trade).

Successful animal health emergency preparedness and response requires integration between the National Response Framework (NRF), the National Incident Management System (NIMS), and the National Animal Health Emergency Management System (NAHEMS). Each of these systems has a specific function in a hierarchical pattern from general to more specific.

National Response Framework (NRF)

The NRF is a guide to how the nation conducts all hazards response. It describes specific authorities and best practices for managing incidents that range from the serious, but purely local, to large-scale terrorist attacks or catastrophic natural disasters. It builds on the NIMS, which provides a consistent template for managing incidents, including animal health emergencies.

The intended audience for the NRF is government executives, private-sector and nongovernmental organization leaders, and emergency management practitioners. It provides a concise, common playbook.

National Incident Management System (NIMS)

Since the terrorist attacks in September 2001, the Federal Government has re-evaluated how to respond to emergencies on U.S. soil. In 2003, the Department of Homeland Security (DHS) established the NIMS. This presidentially mandated system provides a consistent nationwide approach for Federal, Tribal, State, and local governments to work effectively and efficiently together to prepare for, prevent, respond to, and recover from domestic incidents, regardless of cause, size, or complexity.

The NIMS provides a managerial and organizational structure for use in accomplishing these objectives. Use of the NIMS also provides the agricultural community with ready access to the human and material resources of the wider emergency management community, thus facilitating the potential mobilization of large-scale resources for response to major emergencies.

The NIMS works hand in hand with the NRF. The NIMS provides the template for managing incidents, while the NRF provides the structure and mechanisms for national level policy for incident management.

Under most circumstances, the existing well-trained cadre of local, State, and Federal animal health professionals is sufficient to cope with a disease outbreak threatening American agriculture. In the event of a sizable regional or national disease outbreak, however, the agricultural community would need help from the larger emergency management community to avoid being overwhelmed by the logistical, operational, and administrative demands of a rapidly changing situation.

The U.S. agricultural community is accelerating its efforts to prepare to respond to a potentially major epidemic by reaching out to the emergency management community. This outreach involves learning and using the NIMS as well as building partnerships with other emergency management agencies and groups for coordinated responses to various emergency scenarios. Such partnerships are vital to planning for the mobilization of large-scale human and material resources to address potentially catastrophic animal health emergencies.

One key component of the NIMS is the Incident Command System (ICS), which is the managerial and organizational structure for use with emergencies that may increase in size or evolve in complexity—whether within a few hours or over several days, weeks, or months. The ICS is designed to enable effective and efficient domestic incident management by integrating a combination of facilities, equipment, personnel, procedures, and communication operating within a common organizational structure, designed to enable effective and efficient domestic incident management.

APHIS has adopted the NIMS and ICS organizational structures and processes to manage emergency responses and other events.

Additional information on the NIMS can be found at: www.fema.gov/emergency/nims.

Additional information on ICS can be found at: http://training.fema.gov/EMIWeb/IS/ICSResource/index.htm.

National Animal Health Emergency Management System (NAHEMS)

A Federal-, State-, and industry-coordinated emergency response system established in 1996, the NAHEMS is an integrated system for dealing with animal health incidents in the United States, such as the incursion of a foreign animal disease or a natural disaster. It encompasses the four tenets of emergency management: prevention, preparedness, response, and recovery. One cornerstone of the NAHEMS is the response guidelines series. The NAHEMS Guidelines are designed for use by official response personnel in the event of a major animal health emergency. They provide information that may be integrated into the preparedness plans of other Federal, State and local agencies, Tribes, and additional groups involved in animal health emergency management activities. For more information see: www.aphis.usda.gov/animal_health/emrs/nahems.shtml.

Foreign Animal Disease Preparedness and Response Plan (FAD PReP)

The Foreign Animal Disease Preparedness and Response Plan (FAD PReP) was developed by APHIS to provide a framework for FAD preparedness and response. The FAD PReP is intended to integrate and synchronize the principles and applied systems of the NRF and the NIMS by providing outbreak goals, guidelines, strategies, and procedures for local, State, Federal, and Tribal responders in one "toolbox."

The FAD PReP documents include NAHEMS guidelines for general veterinary activities, disease specific response plans, industry or facility manuals aimed for industry stakeholders, standard operating procedures and checklists for planners and responders, and continuity of business plans that are "ready to go" for exercises and outbreaks.

FAD Recognition and Initial Response

The local veterinary practitioner, who may be the first to suspect the possible presence of an FAD, is one of the most important figures in the Government–veterinarian–producer partnership formed to prevent and respond to FADs. The veterinarian's alertness to the possibility of serious disease and prompt action in notifying both the APHIS–VS Area Veterinarian in Charge and the State Animal Health Official can mean the difference between immediate disease containment and a protracted control and eradication effort involving large-scale economic consequences and possibly requiring many months or years to complete. Once the notification is made, a specially trained FAD diagnostician (State or Federal) visits the premises, investigates the report, and takes diagnostic samples. On the basis of results of this process, the FAD diagnostician makes a field diagnosis, initiates appropriate control measures, ships diagnostic samples to the National Veterinary Services Laboratories (NVSL), and informs the AVIC or SAHO.

After the presence of disease has been confirmed and regulatory measures have been put in place for pathogen control, local veterinarians continue to play key roles not only by increasing public awareness of disease-control measures but also by supporting or joining the disease control and eradication effort. Joining the effort is done through the National Animal Heath Emergency Reserve Corps (NAHERC), a program that provides temporary Federal status for selected private veterinary practitioners and animal health technicians. See the section on NAHERC, below, for more information.

When an incident occurs, the appropriate AVIC and SAHO will establish an Incident Command Post (ICP) with an Incident Management Team (IMT), and will delegate their authority to take appropriate action to the Incident Commander (IC) of the IMT. The IMT consist of all types of communication, safety, and liaison sections. This team is the incident's command and general staff. The IMT also includes four line organizations to perform all of the effort required to identify, contain, eradicate, recover, and return the situation to normal business practices. These line organizations include sections for operations, planning, logistics, and finance and administration. Within each of these sections is the capability to accomplish all of the tasks necessary to ensure a successful outcome to an animal health emergency.

If multiple ICPs are needed in the State, an Area Command may be established to coordinate the activities of the ICs through this organization. The AVIC and SAHO will continue to set priorities for the ICs and for use of resources.

In any given incident, one of three levels of response may be appropriate and commensurate with the severity of the outbreak or other emergency:
• A local or limited response: This level of response is managed by local, State, Tribal, Federal, and industry officials with response coordination provided primarily at the State and regional levels and with national-level consultation and consequence management (like trade issues).
• A regional response: A regional response is managed by local, State, Tribal, Federal, and industry officials—in some cases, with the involvement of the appropriate State emergency management agency as specified in State animal health emergency response plans. National-level crisis management, response coordination, consultation, and consequence management are required.
• A national response: A national response requires the combined efforts of local, State, Tribal, Federal, and industry agricultural officials; coordination from nonagricultural personnel from Government bodies like DHS; and the support of the private and volunteer sectors in national-level crisis management, response coordination, consultation, and consequence management.

National Animal Health Emergency Response Corps (NAHERC)

When an animal health emergency occurs, an immediate response is necessary to protect both animals and people. APHIS will look to many sources to obtain veterinary personnel to help meet critical staffing needs during such an emergency.

In 2001, APHIS established the NAHERC to respond to exotic disease outbreaks and other disasters that affect livestock, poultry, companion animals, and wildlife.

The mission of the NAHERC is to support responses for animal health incidents and emergencies that affect livestock and poultry, and to support other animal health emergency responses, in the event capabilities are overwhelmed. The NAHERC currently has positions for veterinarians and animal health technicians. When activated, NAHERC members become temporary APHIS employees and are compensated in accordance with the General Service (GS) pay scale.

NAHERC members volunteer for all temporary assignments or deployments. NAHERC members are not involuntarily drafted for assignments or deployments. Assignments or deployments may be as short as 3 to 4 weeks, but they can be much longer.

Potential NAHERC members apply for positions through the USA JOBS website application process. Over 1,400 NAHERC members have successfully completed the application process since 2007.

NAHERC wants you!

- Protect U.S. agriculture
- Help communities in need
- Expand career options
- Network within the veterinary community
- Learn emergency response procedures

For more information, or to join NAHERC, please contact:
http://naherc.aphis.usda.gov
NAHERC@aphis.usda.gov
(301) 734–8073

Notifiable Diseases and Conditions

An accredited veterinarian shall immediately report to both the Veterinarian-in-Charge and the State Animal Health Official all diagnosed or suspected cases of a communicable animal disease for which a APHIS has a control or eradication program in 9 CFR chapter I, and all diagnosed or suspected cases of any animal disease not known to exist in the United States as provided by §71.3(b) of this chapter.

Report any suspicious clinical or necropsy findings accompanied by a history of people or animals that have recently returned from a foreign country and report any disease of unknown etiology causing high mortality or morbidity. Most States provide a list of reportable diseases that should be used to supplement the list of reportable diseases that follows. Contact your SAHO for such a list.

You should be suspicious of the following:
• High morbidity, high mortality;
• Severe abortion storms of unknown etiology;
• Severe respiratory conditions;
• Vesicular lesions;
• Pox or lumpy skin conditions;
• Poor or no response to treatment when response is expected;
• Atypical findings at necropsy;

• History of foreign travel, foreign visitors, or receipt of foreign parcels;
• Recent importation of animals, embryos, or semen;
• Undiagnosed encephalitic (CNS) conditions;
• Larvae (maggots) feeding on living tissue;
• Avian disease with acute deaths or CNS signs;
• Unusual myiasis or acariasis (exotic flies, mites, ticks, etc.); or
• Unusual or unexplained signs of illness.

Guidelines

If you suspect a highly contagious foreign or reportable disease (e.g., foot-and-mouth disease, classical swine fever, highly pathogenic avian influenza), phone the Veterinarian-in-Charge and the State Animal Health Official directly from the farm or premises (see your Federal listing in appendix B and your State listing in appendix C). Have the following information available:
• Producer or owner name, address, county, and phone number;
• Directions to the farm or premises;
• Complete clinical history;
• Number and species of animals affected, and number and species of animals susceptible;
• Conditions you may have already ruled out;
• Any treatments given and response noted; and
• Contact information for you, including your name, address, and relevant phone numbers.

The following diseases listed by OIE are considered by APHIS to be foreign to the United States and must therefore be reported.

Multiple Species Diseases
• Brucellosis (*Brucella melitensis*)
• Crimean Congo hemorrhagic fever
• Foot-and-mouth disease
• Heartwater
• Japanese encephalitis
• New World screwworm *(Cochliomyia hominivorax)*
• Old World screwworm *(Chrysomya bezziana)*
• Rift Valley fever
• Rinderpest
• Surra *(Trypanosoma evansi)*
• Vesicular stomatitis

Cattle Diseases
- Bovine babesiosis
- Bovine spongiform encephalopathy
- Contagious bovine pleuropneumonia
- Hemorrhagic septicemia
- Lumpy skin disease
- Theileriosis
- Trypanosomosis (tsetse-transmitted)

Sheep and Goat Diseases
- Contagious caprine pleuropneumonia
- Nairobi sheep disease
- Peste des petits ruminants
- Sheep pox and goat pox

Equine Diseases
- African horse sickness
- Contagious equine metritis
- Dourine
- Equine piroplasmosis
- Glanders
- Venezuelan equine encephalomyelitis

Swine Diseases
- African swine fever
- Classical swine fever
- Nipah virus encephalitis
- Porcine cysticercosis
- Swine vesicular disease
- Teschovirus encephalomyelitis

Avian Diseases
- Duck virus hepatitis
- Fowl typhoid
- Highly pathogenic avian influenza in birds
- Newcastle disease
- Turkey rhinotracheitis

Lagomorph Diseases
- Rabbit hemorrhagic disease

Other Terrestrial Animal Diseases
• Camelpox
• Leishmaniosis

Fish Diseases
• Epizootic hematopoietic necrosis
• Gyrodactylosis *(Gyrodactylus salaris)*
• Infectious salmon anemia
• Red sea bream iridoviral disease
• Spring viremia of carp
• Viral hemorrhagic septicemia

Mollusc Diseases
• Infection with abalone herpes-like virus
• Infection with *Bonamia exitiosa*
• Infection with *Bonamia ostreae*
• Infection with *Marteilia refringens*
• Infection with *Perkinsus olseni*
• Infection with *Xenohaliotis californiensis*

Crustacean Diseases
• Crayfish plague *(Aphanomyces astaci)*
• Infectious hypodermal and hematopoietic necrosis
• Infectious myonecrosis
• Taura syndrome
• White tail disease
• Yellow head disease

In addition to the preceding diseases, the following VS program diseases are reportable diseases even though they are not foreign to the United States:
• Aujeszky's disease (pseudorabies)
• Bovine tuberculosis
• Brucellosis (*Brucella abortus*)
• Brucellosis (*Brucella suis*)
• Chronic wasting disease
• Equine infectious anemia
• Equine viral arteritis
• Scrapie

Please note that other disease entities (e.g., Johne's disease) may be reportable at the State level. Check your State listing of reportable diseases.

OIE and International Standards

The Office International des Epizooties (OIE) was established in Paris, France, in 1924 with the signing of an international agreement by 28 countries. In 2003 the Office became the World Organization for Animal Health, but kept its historical acronym OIE. As of 2011, the OIE has 178 Member Countries and Territories, each of which is represented by a delegate who, in most cases, is the Chief Veterinary Officer of the country.

The OIE is the intergovernmental organization responsible for improving animal health worldwide and has six primary missions:
(1) to ensure transparency in the global animal disease situation;
(2) to collect, analyze, and disseminate scientific veterinary information;
(3) to encourage international solidarity in the control of animal diseases;
(4) to safeguard world trade by publishing health standards for international trade in animals and animal products (within its mandate under the World Trade Organization, Sanitary and Phytosanitary Agreement);
(5) to improve the legal framework and resources of national veterinary services; and
(6) to provide a better guarantee of the safety of foods of animal origin and to promote animal welfare through a science-based approach.

One of OIE's important missions is to improve knowledge, as well as the transparency, of the world animal health situation. Members are obligated to report disease events of animal health significance. To achieve this, the OIE developed and manages a web-based reporting system called the World Animal Health Information System (WAHIS). Through the WAHIS Members must report to the OIE all notifiable terrestrial and aquatic animal diseases detected within their respective territories. This information then becomes immediately available to the world so that countries can take any necessary preventive action. As an OIE Member the United States takes its commitment to disease reporting seriously and responsibly. OIE maintains a list of notifiable diseases that is updated annually.

The following diseases are currently included in the list.

Terrestrial Animal Diseases:

Multiple Species Diseases

- Anthrax
- Aujeszky's disease (pseudorabies)
- Bluetongue
- Brucellosis (*Brucella abortus*)
- Brucellosis (*Brucella melitensis*)
- Brucellosis (*Brucella suis*)
- Crimean Congo haemorrhagic fever
- Echinococcosis/hydatidosis
- Epizootic haemorrhagic disease
- Equine encephalomyelitis (Eastern)
- Foot-and-mouth disease
- Heartwater
- Japanese encephalitis
- Leptospirosis
- New world screwworm *(Cochliomyia hominivorax)*
- Old world screwworm *(Chrysomya bezziana)*
- Paratuberculosis
- Q fever
- Rabies
- Rift Valley fever
- Rinderpest
- Surra (*Trypanosoma evansi*)
- Trichinellosis
- Tularemia
- Vesicular stomatitis
- West Nile fever

Cattle Diseases

- Bovine anaplasmosis
- Bovine babesiosis
- Bovine genital campylobacteriosis
- Bovine spongiform encephalopathy
- Bovine tuberculosis
- Bovine viral diarrhea
- Contagious bovine pleuropneumonia
- Enzootic bovine leukosis
- Hemorrhagic septicemia
- Infectious bovine rhinotracheitis/infectious pustular vulvovaginitis

- Lumpy skin disease
- Theileriosis
- Trichomonosis
- Trypanosomosis (tsetse–transmitted)

Sheep and Goat Diseases
- Caprine arthritis/encephalitis
- Contagious agalactia
- Contagious caprine pleuropneumonia
- Enzootic abortion of ewes (ovine chlamydiosis)
- Maedi–Visna
- Nairobi sheep disease
- Ovine epididymitis *(Brucella ovis)*
- Peste des petits ruminants
- Salmonellosis *(S. abortusovis)*
- Scrapie
- Sheep pox and goat pox

Equine Diseases
- African horse sickness
- Contagious equine metritis
- Dourine
- Equine encephalomyelitis (Western)
- Equine infectious anemia
- Equine influenza
- Equine piroplasmosis
- Equine rhinopneumonitis
- Equine viral arteritis
- Glanders
- Venezuelan equine encephalomyelitis

Swine Diseases
- African swine fever
- Classical swine fever
- Nipah virus encephalitis
- Porcine cysticercosis
- Porcine reproductive and respiratory syndrome
- Swine vesicular disease
- Teschovirus encephalomyelitis (under study)
- Transmissible gastroenteritis

Avian Diseases
• Avian chlamydiosis
• Avian infectious bronchitis
• Avian infectious laryngotracheitis
• Avian mycoplasmosis *(Mycoplasma gallisepticum)*
• Avian mycoplasmosis *(Mycoplasma synoviae)*
• Duck virus hepatitis
• Fowl cholera
• Fowl typhoid
• Highly pathogenic avian influenza in birds
• Low pathogenicity notifiable avian influenza in poultry
• Infectious bursal disease (Gumboro disease)
• Marek's disease
• Newcastle disease
• Pullorum disease
• Turkey rhinotracheitis

Lagomorph Diseases
• Myxomatosis
• Rabbit hemorrhagic disease

Bee Diseases
• Acarapisosis of honey bees
• American foulbrood of honey bees
• European foulbrood of honey bees
• Small hive beetle infestation (*Aethina tumida*)
• *Tropilaelaps* infestation of honey bees
• Varroosis of honey bees

Other Diseases
• Camelpox
• Leishmaniosis

Aquatic Animal Diseases:

Fish Diseases

- Epizootic hematopoietic necrosis
- Epizootic ulcerative syndrome
- Gyrodactylosis *(Gyrodactylus salaris)*
- Infectious hematopoietic necrosis
- Infectious salmon anemia
- Koi herpesvirus disease
- Red sea bream iridoviral disease
- Spring viremia of carp
- Viral hemorrhagic septicemia

Mollusc Diseases

- Infection with abalone herpes-like virus
- Infection with *Bonamia exitiosa*
- Infection with *Bonamia ostreae*
- Infection with *Marteilia refringens*
- Infection with *Perkinsus marinus*
- Infection with *Perkinsus olseni*
- Infection with *Xenohaliotis californiensis*

Crustacean Diseases

- Crayfish plague (*Aphanomyces astaci*)
- Infectious hypodermal and hematopoietic necrosis
- Infectious myonecrosis
- Necrotising hepatopancreatitis
- Taura syndrome
- White spot disease
- White tail disease
- Yellow head disease

Amphibian Diseases

- Infection with *Batrachochytrium dendrobatidis*
- Infection with ranavirus

Cleaning and Disinfection

Cleaning and Disinfecting Pens, Vehicles, etc.

As an accredited veterinarian, you are required to take such measures of sanitation as are necessary to prevent the spread of communicable diseases of animals. In situations involving a contagious disease, vehicles, holding pens, and other facilities must be cleaned and disinfected. As an accredited veterinarian, you must be prepared to make recommendations as to the disinfectant and the techniques to be used for cleaning and disinfecting.

When dealing with certificates of veterinary inspection and the movement of animals, the accredited veterinarian must be prepared to certify that transportation vehicles have been properly cleaned and disinfected before animals can be moved across State or international borders. In Title 9 of the Code of Federal Regulations (CFR), part 91, subsection 91.3 (d), it is stipulated that "the origin health certificate accompanying animals shall be accompanied by a statement from the issuing accredited veterinarian or inspector that the means of conveyance or container has been cleaned and disinfected since last used for animals with a disinfectant approved under subsection 71.10 of this chapter, prior to loading, or that the carrier or container has not previously been used in transporting animals."

As a member of the professional community, the accredited veterinarian should be prepared to consult on disinfectants to be used for various disease threats. This is especially critical given homeland security concerns. The accredited veterinarian should cultivate a broad knowledge of the general nature of disinfectants and sources from which suitable chemicals can readily be obtained rather than just superficial information about specific commercial brands. You need to be clear, before you approach the task, whether you are disinfecting or sterilizing. Disinfecting reduces the number of pathogenic microorganisms below a harmful level; sterilizing eliminates all microorganisms (and spores). It is not possible to consider sterilizing a corral, barn, paddock, or truck.

Safety

Worker Protection Standards (WPS) are a specific portion of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA; Title 40 CFR part 170), that requires the protection of employees from agricultural pesticides **www.epa.gov/pesticides/health/worker.htm**. If you supervise individuals who will be applying pesticides, in this case disinfectants, read

the worker protection standards on the package closely. Personal protective equipment—boots, coveralls, rain suits (including both pants and jackets with hoods), gloves (specific to the materials being handled), face shields when applying disinfectants, and goggles when handling concentrated powders or solutions—must be utilized when required by the label of the pesticide product(s) being applied. Respirators and chemical resistant suits may be required for some solutions.

Cleaning

Cleaning is one of the most important steps in the disinfection process. When done appropriately, cleaning alone can remove over 90 percent of microorganisms. This step also helps improve disinfection efficacy since most disinfectants have reduced effectiveness in the presence of organic material. The cleaning process can be broken down into four basic steps: dry clean, wet wash, rinse, and dry.

1. Dry cleaning involves the removal of any gross contamination and organic material (e.g., soil, manure, bedding, feed) from production areas or equipment. Use shovels, manure forks, brooms, and brushes to sweep, scrape, and remove organic material and debris from surfaces and areas. Air blowers should not be used for dry cleaning due to the risk of spreading pathogens. Begin with the ceiling and continue down the walls with special attention to any overhead pipes, ducts, and lights as well as window sills and molding. Suitable personal protective equipment should be worn if significant dust is raised in the process. Moistening the areas or items with water may be helpful for controlling dust and minimizing aerosolization of pathogens.

When dry cleaning is finished, there should be no loose dirt, dust, feed, bedding, manure, hay, straw, or any other organic material remaining, but the surfaces will not necessarily be visibly clean. Disposal of all material should be in a manner that minimizes further spread of microorganisms and that is compliant with Federal, state, and local requirements and policies.

2. Following the removal of gross contamination (dry cleaning), areas or items should be washed with soap or detergent. The washing process helps to further reduce the number of microorganisms as well as removes any oil, grease, or exudates that may inhibit the action of disinfection. Prior to washing, any electrical equipment should be turned off and removed or covered tightly with plastic sheeting. An electrician may need to be contacted for the removal of thermostats, timing devices, motor controls, and remote sensing equipment prior to washing.

Areas and items with organic material adhered to the surfaces should be pre-soaked for several hours. Mechanical scrubbing and scraping may be necessary to remove oils, grease or exudates. The scrubbing can be done with rags on smooth surfaces, although the commercially available plastic or metal scrub pads are much more efficient. Rough surfaces should be scrubbed with a stiff brush to ensure that they are cleaned as completely as possible. Deep cracks, crevices, pits, pores, or other surface irregularities should be given particular attention to dislodge accumulated grime.

High pressure water and detergent is very effective in removing the heavy accumulation of urine and feces often present in the environment and for cleaning porous surfaces. However, in cases of highly infectious or zoonotic pathogens, high pressure systems should be avoided or used with caution to avoid further dispersal of the pathogen or risk to the applicator.

Whenever possible, warm to hot water (90-130°F [32-54°C] or higher) should be used. This can increase efficacy for some products and may be important for the proper dissolution of certain chemicals (e.g., sodium carbonate); heat may also aid in inactivating some pathogens. Hot water and steam can be effective for cleaning cracks, crevices and the inside of pipework where pathogens are likely to linger.

3. After washing, all surfaces should be thoroughly rinsed, as residues from cleaners and detergent can inactivate certain chemical disinfectants. Rinsing should be done at low pressure with cold water. When the rinsing process is completed, surfaces should be carefully inspected to ensure they are visibly clean. Moisture should spread evenly over surfaces and no “beading” should occur as this would indicate the presence of oil or grease.

4. Whenever possible, surfaces should be allowed to dry completely (if possible overnight) before application of a disinfectant. Excess moisture, especially on porous surfaces, may dilute and reduce the efficacy of the disinfectant applied to the surface; it may also harm equipment. In cool or cold weather, drying can be accomplished by heating the building and circulating the air with auxiliary blowers. In hot weather, drying may be accomplished with blowers or fans. In confined areas or on equipment where air circulation from fans is not enough, the use of high pressure air from a compressor or high volume blowers can aid in the removal of excess moisture so drying can take place. If highly infectious or zoonotic pathogens are suspected, high pressure systems should be avoided or used with caution to avoid inadvertent spread of pathogens.

Disinfection

Definition of Disinfectant and Sterilant

A *disinfectant* is an agent or substance that destroys or irreversibly inactivates all forms of harmful microorganisms, but not necessarily their spores, on hard inanimate surfaces. In contrast, a *sterilant* (or *sporicide*) is an agent or substance that destroys or eliminates all forms of microbial life in the inanimate environment, including all forms of vegetative bacteria, bacterial spores, fungi, fungal spores and viruses. (Definitions derived from: **www.epa.gov/oppad001/ad_info.htm**. Over time, multiple repetitions of cleaning and disinfecting might approach sterility, but from a practical point of view the aim when disinfecting is to diminish the population of microorganisms to a level at which they are no longer harmful.

Regulation of Disinfectants

Chemical disinfectants in the United States are regulated by the U.S. Environmental Protection Agency (EPA) under FIFRA (40 CFR Parts 150-189). Under FIFRA, chemical disinfectants are considered to be "antimicrobial pesticides" that are intended for the control, prevention and destruction of pathogenic microorganisms on inanimate objects and surfaces.

Prior to product registration and marketing, manufacturers are required to submit product chemistry, efficacy and toxicity data, along with proposed labeling, for EPA's review. FIFRA requires that any pesticide be registered or exempted before it may be sold or distributed in the United States. A federally registered product registration number consists of two parts—the Federal registrant's company number and the product number. [Note: Supplemental or distributor products bear three numbers – the Federal registrant's company number, the product number and the distributor's company number.] The product label for any EPA-registered disinfectant may be retrieved by entering the registration number in the EPA's Pesticide Product Label System (PPLS) Search engine at **http://oaspub.epa.gov/pestlabl/ppls.home**.

FIFRA further requires that all label use directions and safety precautions must be followed. Application of a registered disinfectant in a manner inconsistent with its labeling may not only result in an ineffective application, but may be a "misuse" of the product subject to potential enforcement action. Thus, a chemical disinfectant should be selected not only on the basis of its desirable characteristics, but also on whether it is registered or exempted under FIFRA and whether it can be used in accordance with its label safety

precautions and use directions for its intended use(s). Individual States also have regulations that may be stricter than Federal regulations.

The EPA Antimicrobials Division has a web site with information about the registration process, data requirements, labeling requirements and other issues pertaining to chemical disinfectants at
www.epa.gov/oppad001/.

Emergency Exemptions

In some situations (e.g., highly contagious foreign animal diseases), a particular pathogen may not be listed on the product label of an EPA-registered disinfectant. In these cases, Section 18 of FIFRA authorizes EPA to grant several different kinds of exemptions to Federal Agencies or States to use unregistered pesticides for a limited time, if EPA determines that emergency conditions exist. If granted, such exemptions would allow the use of non-registered pesticides or the "off-label" uses of a registered pesticide for a specified time period. Use is only allowed for designated personnel and as described in the exemption. A full explanation of FIFRA Section 18 exemption process can be found at **www.epa.gov/opprd001/section18**. Federal regulations regarding emergency exemptions (40 CFR Part 166) are described at **www.access.gpo.gov/nara/cfr/waisidx_04/40cfr166_04.html**.

Selecting and Using Disinfectants

As a first step in disinfectant selection, determine which disinfectants are registered by U.S. EPA for use against the microorganism(s) of interest and for the sites/locations that need to be treated. These products will either have been registered under FIFRA Section 3 (i.e., a regular label) or exempted under FIFRA Section 18 (i.e., emergency use label). Get label information on each possible disinfectant so that you can determine dilution requirements and check to see that the company's EPA-approved label indicates effectiveness against the microorganism of interest. If there are no EPA-registered disinfectants for the pathogen of concern, the best alternative may be a broad spectrum disinfectant approved by the EPA for small non-enveloped viruses and bacteria. An extensive list of EPA-approved pesticides for use against selected animal disease agents in farm settings can be found at: **www.aphis.usda.gov/emergency_response/downloads/nahems/Selected FAD table March 2011.pdf**.

These disinfectants should be used according to their approved labels at the indicated dilution, use sites, application method, contact time, precautionary statements, etc., against the pathogens specified on the label. The dilution listed on the label must be followed exactly unless you have a Section 18 exemption allowing a different dilution. Disinfectants

are tested and proven effective at the specified dilution. Use of concentrations of disinfectants that are higher than specified on the label may be more hazardous to personnel and to the environment. Disinfectant wet time (contact time) should be observed carefully. A surface to be disinfected should remain “shiny” wet for at least 10 minutes; damp is not adequate.

For additional general information regarding disinfectants, see **www.aphis.usda.gov/animal_health** and **www.biosecuritycenter.org**.

Disease Surveillance

In all the following surveillance activities, veterinary practitioners play a key role. Veterinarians in the field are often the first line of defense against the incursion of a disease. Because the veterinary practitioner is usually the primary contact person with the owners of livestock or pets, it is imperative that he or she do all that is possible to educate owners, to be aware of unusual clinical signs, to be aware of current disease outbreaks or threats, and to immediately report possible diseases of concern to both Federal and State Animal Health Officials.

9 CFR Part 161.4(f) requires an accredited veterinarian to immediately report to the Veterinarian-in-Charge and the State Animal Health Official all diagnosed or suspected cases of a communicable animal disease for which APHIS has a control or eradication program in 9 CFR Chapter I, and all diagnosed or suspected cases of any animal disease not known to exist in the United States as provide by Part 71.3(b) of this chapter.

The classic action plan for disease control and eradication is as follows:
1. Find—surveillance;
2. Contain—prevention of spread from infected herds; and
3. Eradicate—elimination of the disease.

In a disease eradication program, it is critically important to recognize that an effective surveillance system is a critical first step that must be in place to be successful. It is imperative to (1) be able to find the disease in order to eliminate it, and (2) find the disease before it has had a chance to spread. If the disease can be identified and eliminated before it has had a chance to spread, eradication can be achieved.

The mission of APHIS –VS is to protect and improve the health, quality, and marketability of our Nation's animals, animal products, and veterinary biologics by preventing, controlling, or eliminating animal diseases and monitoring and promoting animal health and productivity. To accomplish this, it is critical to be able to detect foreign animal diseases and emerging domestic diseases, monitor disease trends and threats in the United States and other countries, detect risk, evaluate disease control and eradication programs, and provide adequate animal health information. Animal health surveillance plays a key role in accomplishing these goals.

The National Animal Health Surveillance System (NAHSS) is a comprehensive, integrated, coordinated system created to detect events and trends related to animal health for all stakeholders involved in public, animal, and environmental health. The system provides a

dynamic knowledge base for actions designed to reduce morbidity, mortality, and economic losses while improving animal health, productivity, marketability, and product safety. Such a system is the foundation for animal health, public health, food safety, and environmental health.

In addition to the obvious role surveillance plays in monitoring endemic diseases and providing actionable information for disease eradication programs (e.g., for brucellosis, tuberculosis, and others), there are a several other significant justifications for animal health surveillance. These include the rapid detection of emerging animal and public health issues and accidentally or intentionally introduced foreign animal disease agents. Animal health surveillance also provides support for the marketability of animals and animal products by demonstrating quality and safety attributes of products through quality assurance and certification programs and by providing scientifically sound evidence of regional prevalence for trade-significant diseases.

Historically, animal health surveillance systems in the United States have been designed primarily for specific disease control or eradication programs. Now, however, working in collaboration with State and industry partners, APHIS is moving toward an organizational and informational infrastructure that supports baseline animal health monitoring and "grows" a dynamic knowledge base for actions designed to reduce morbidity, mortality, and economic losses while improving animal health, productivity, marketability, and product safety. APHIS –VS is focusing on several key areas during the enhancement of current national animal health surveillance efforts:

- Enhancement of surveillance for current program diseases,
- Rapid detection of emerging and foreign animal diseases,
- Surveillance for diseases affecting marketability or economics of industry,
- Surveillance based on risk of disease,
- Monitoring of animal health trends, and
- Ability to do focused surveillance as needed.

In closing this chapter, we cannot overemphasize the key role veterinary practitioners play in national disease surveillance efforts. The veterinarian in the field is the critical first line of defense against an emerging or foreign animal disease incursion.

Laboratory Submissions

Part of your responsibility as an accredited veterinarian is to ensure that specimen samples sent to a laboratory for testing and certification are properly collected, prepared, identified, packed, and sent along with appropriate submission form(s). Most testing for regulatory work involves drawing and submitting blood samples, but you may also be required to submit other fluid or tissue specimens. When submitting blood or serum samples, it is important to take precautions to provide adequate sample volume for testing and to prevent hemolysis, spoilage, or breaking of the sample tubes.

Diagnostic sample submission procedures are complex and consist of multiple regulatory shipping requirements enforced by multiple entities. Due to the complexity and length of these submission procedures, this guide will explain only what agencies are involved in shipping regulations and then direct you to several sources of information in the event that you have samples that need to be submitted to the laboratory. For shipment of samples for regulatory purposes you should contact either your State animal health official or your VS Area Office.

The following are entities involved in the regulation of shipment of diagnostic samples:

U.S. Department of Transportation (DOT)

DOT has regulatory authority over shipments of hazardous materials. Diagnostic specimens fall under this category. DOT regulations were revised in 2003 to harmonize U.S. requirements with international requirements and to enhance the safe transportation of diagnostic specimens. For further information, consult the DOT Web site at:
http://www.dot.gov/

U.S. Postal Service (USPS)

The USPS regulates hazardous material shipments of "diagnostic specimens" sent through the mail. Their regulations are consistent with those of DOT and IATA for shipments of diagnostic specimens. For further information, consult the USPS Web site at:
http://www.usps.com/

International Air Transport Association (IATA)

IATA is the trade association of the world's airlines. Its regulations are tailored to United Nations technical instructions. IATA regulations must be followed for all shipments of diagnostic specimens by air whether sent within the United States or internationally. IATA regulations are consistent with DOT and USPS requirements for shipments of diagnostic

specimens. For further information, consult the IATA Web site at:
http://www.iata.org/Pages/default.aspx

If you need to submit diagnostic specimens in your role as an accredited veterinarian, we request that you follow the guidance below on how and where to get instructions on the sampling, packaging, and shipping of these specimens.

For routine diagnostic samples to be submitted to a State or university diagnostic laboratory
You should contact the laboratory for how the sample should be collected, prepared, packaged and shipped. Contact information for many State and university veterinary diagnostic laboratories is available at the American Association of Veterinary Laboratory Diagnosticians (AAVLD) web site at:
http://www.aavld.org

Most laboratories have websites that will guide you to their diagnostic test offerings, submission form, and user fees.

For routine diagnostic samples to be submitted to NVSL
You should visit the NVSL web site to ensure you have the most current submission forms and instructions:
http://www.aphis.usda.gov/animal_health/lab_info_services/forms_publications.shtml

You should also visit the NVSL website that will provide you the most current information of available test and user fees.
http://www.aphis.usda.gov/animal_health/lab_info_services/diagnos_tests.shtml

For regulatory diagnostic samples to be submitted to NVSL at Ames, IA or FADDL at Plum Island, NY under the direction of your VS Area Office
During normal working hours, contact your local VS Area Office to determine how the sample should be collected and packaged and where the sample should be shipped. Contact information for all VS Area Offices is in appendix B of this guide. But to check for the most up-to-date listings, visit this Web site:
http://www.aphis.usda.gov/animal_health/area_offices/

For questions on Foreign Animal Disease Investigation submission after normal working hours
Please contact NVSL directly at (515) 663–7200. This phone number connects you with the night security at NVSL. Ask to speak with the manager on duty to determine how the

sample should be collected and packaged and where it should be shipped.

Remember, even when submitting samples directly to a laboratory after hours, always provide the APHIS –VS Area Office with a copy of the submission information. NVSL Laboratory submission forms (VS 10–4 and VS 10–4a) including instructions on completing the forms on are available electronically at:
http://www.aphis.usda.gov/animal_health/lab_info_services/forms_publications.shtml

Animal Movement

Interstate Regulations

Interstate regulations provide for quarantine, restriction of movement, maintenance of sanitation, and identification of animals to prevent the spread of animal disease. Accredited veterinarians certify livestock, birds, and poultry for intrastate and interstate transportation according to the regulations in Title 9 Code of Federal Regulations (9 CFR). Individual States provide certificates of veterinary inspection that are available from the State animal health official.

Interstate transportation of animals (including poultry) and animal products must conform to the requirements in 9 CFR, chapter 1, subchapter C, parts 70 through 89. Most States have additional animal-entry requirements. These requirements, as well as intrastate transportation regulations, can be obtained from the appropriate State animal health official.
A list of State Department of Agriculture Officials is available online at the National Association of State Departments of Agriculture:
http://www.nasda.org/cms/7195/8617.aspx
A list of State Animal Health Officials is available online at the United States Animal Health Association: **http://www.usaha.org/**

APHIS –VS provides an online State Regulations Retrieval System at:
http://www.aphis.usda.gov/import_export/animals/animal_import/animal_imports_states.shtml

To facilitate the movement of livestock and poultry and to prevent the spread of disease, you as an accredited veterinarian are responsible for becoming familiar with the appropriate State and Federal movement regulations. You should inspect and or examine animals or poultry according to these regulations and any additional instructions given by your State animal health official or VS Area Office and provide a complete and legible certificate of veterinary inspection (CVI).

The following sections summarize pertinent areas of 9 CFR and State requirements. Because the regulations are subject to change, this information should be verified. (See appendix B for contacts in the State of destination.) An entry permit may also be required from the State of destination.

Diseased Animals and Poultry

Interstate movement of diseased animals and poultry is generally prohibited, 9 CFR Part 71.3.

(a)Animals or poultry affected with any of the following diseases endemic to the United States shall not be moved to another State except as provided for in the CFR: equine babesiosis (piroplasmosis), bovine piroplasmosis or splenetic fever, scabies in cattle, acute swine erysipelas, tuberculosis, Johne's disease, brucellosis, scrapie, bluetongue, anthrax, psittacosis or ornithosis, poultry disease caused by *Salmonella enterica* serotype *enteritidis*, and Newcastle disease, or any other communicable disease that is endemic to the United States. Also, animals that are infested with the *Boophilus* tick are not to move interstate.

(b)Animals or poultry affected with any of the following diseases not known to exist in the United States shall not be moved interstate: foot-and-mouth disease, hog cholera (classical swine fever), rinderpest, contagious bovine pleuropneumonia, European fowl pest, dourine, vesicular exanthema, screwworm, glanders, scabies in sheep, or any other communicable disease exotic to the United States.

Interstate Movement of Cattle, Horses, Swine, Sheep and Goats

Cattle

For interstate movements, all cattle 2 years of age or over, except steers and spayed heifers, must be individually identified (see the section entitled "Current Animal Identification") and accompanied by a Certificate of Veterinary Inspection or other document. Exceptions apply to certain movements, such as when there is no change of ownership or movements to certain stockyards or slaughtering establishments. Check with your APHIS –VS Area Office or your State animal health official. Contact information for them is contained in Appendixes 2 and 3.

Horses

For interstate movements, most States require that horses be individually identified and accompanied by a Certificate of Veterinary Inspection. Specific requirements, such as proof of negative EIA testing, or other restrictions of movement based on regional or national disease conditions such as neurological Equine Herpes Virus, equine piroplasmosis, or Contagious Equine Metritis, are dictated by each importing state.

Swine

For interstate movements, all swine must be individually identified with official

identification unless the swine are kept as a group. The CFR part 71.19 explains the requirements for group shipment of swine.

Additionally, swine moving within a production system do not need to be individually identified if there is a swine production health plan agreement, as defined in 9 CFR Part 71.1, in place. Producers who are moving swine via interstate commerce within their production system may qualify if all the necessary agreements are implemented. To qualify for within production system movements the producer would need to develop a swine production health plan. The plans have to be approved by both the sending and receiving swine State animal health officials. There are also additional requirements on moving swine within a production system. These requirements are explained in 9 CFR 71.19(g)

Sheep and Goats

For interstate movement, CVIs are required, as specified by 9 CFR 79.3, for certain interstate movements of sheep and goats. CVIs may be required for other classes of animals by some States. For sheep and goats, CVIs are required for:

- Breeding sheep and goats (any sexually intact animal that is not moving directly to slaughter, through slaughter channels to slaughter, or to a feedlot to enhance its condition for movement to slaughter) except
  - –Sheep and goats being moved for grazing without change of ownership;
  - –Low-risk commercial sheep that require an owner and veterinary statement instead of a CVI;
  - –Low-risk commercial breeding goats *(Note: an owner and veterinary statement is not required, unlike the practice for low-risk commercial sheep. Goats that have been commingled with sheep or that are in CO, MI, or IL do not qualify for the low-risk commercial goat exemption);*
- Sexually intact sheep or goats for exhibition.

Please note that scrapie-positive, suspect, and high-risk animals, some exposed animals, and animals that originated in an infected or source flock require permits rather than CVIs. Contact the VS Area Office for further information on these permits.

A certificate must show

- Individual animal identification numbers including: the official eartag number(s), registered breed association registration tattoo or brand numbers, registered breed association registration number and any other official individual identification of each animal to be moved. Except that in the case of animals identified with premises identification that is assigned to the flock of origin and that meets the requirements for individual animal identification, the premises number may be recorded instead of the individual identification number. (Copies of the registration papers can be attached to

the CVI in lieu of recording all registration information on the certificate. Other attachments may also be used to list the identification of the animals as permitted in 9 CFR 79.5(b), in lieu of recording them directly on the certificate.)
- Number of animals covered by the certificate.
- Purpose for which the animals are to be moved.
- Points of origin and destination.
- The consignor and the consignee.
- A statement by the issuing accredited or State or Federal veterinarian that the animals were not exhibiting clinical signs associated with scrapie at the time of examination. (State CVIs that have certification statements indicating that "the animals have no history of clinical signs or exposure to contagious or infectious diseases," or words to that effect, will suffice in lieu of the specific scrapie statement).

For additional information, please refer to the section on "Identification Requirements" in the Scrapie Eradication— Uniform Methods and Rules at **<http://www.aphis.usda.gov/animal_health/animal_diseases/scrapie/downloads/umr_scrapie.pdf>**

Issuing Interstate Animal Movement Documents

Certificate of Veterinary Inspection (CVI)

When a CVI is required, it must accompany each shipment and list the following information:

- Consignor and location from which the animals have been moved;
- Name and address of the owner at the time of movement;
- Consignee and destination of the animals;
- Number of animals covered by the certificate;
- Purpose for which the animals are to be moved;
- Individual official identification of each test-eligible animal;
- Dates and results of the official tests;
- Age;
- Official calfhood vaccination (OCV) status of each animal (OCV tattoo); and
- If required, a permit number issued by the State of destination.

Note: The most common veterinary accreditation violations include the improper completion and/or issuance of Cerificates of Veterinary Inspection for the interstate movement of animals. Compliance action resulting from improper certificate completion can affect a practioner's accreditation status.

Other Interstate Movement Documents

As an alternative to writing individual animal identifications on a CVI, you may use another document to provide this information but only under the provisions specified in 9 CFR part 78.1 or in the case of sheep or goats 79.5. Test dates and results must be recorded on the CVI. All of the following requirements must be met:

- The document must be a State form or an APHIS form that requires individual identification of animals.
- A legible copy of the document must be stapled to the original CVI and each copy of the CVI.
- Each copy of the document must identify each animal to be moved with the inspection certificate, but any information pertaining to other animals and any unused space on the document for recording animal identification must be crossed out in ink.

The following information must be written in ink in the identification column on the original CVI and each copy of the document and must be circled or boxed, also in ink, so that no information can be added: (1) the name of the document and (2) either the serial number on the document or, if the document is not imprinted with a serial number, both the name of the person who prepared the document and the date that the document was signed.

International Animal Movement

International Origin Health Certificates (OHC) for the export of animals from the United States are completed by the accredited veterinarian, who certifies herd and animal inspection status, conducts tests, and records test results for the individual animals being exported. To be valid, completed and signed certificates of veterinary inspection for the export of animals from the United States must be reviewed and endorsed by the APHIS –VS Area Office in the State where they were issued.

Livestock

The United States has minimal requirements for certain livestock to be exported to other countries. Your APHIS –VS Area Office can provide you with the current regulations, tests, and inspections required for the export of livestock. Approved ports of embarkation and shipping requirements can be found in 9 CFR part 91. The most common OHC for the export of livestock is the VS Form 17–140, U.S. Origin Health Certificate.

Each destination country may have other specific health requirements for entry of animals. These requirements are established by the importing country, not the United States. Some

countries also have their own import health certificate that may be used instead of the VS Form 17-140 or may be in addition to the VS Form 17-140. Frequently, import permits are required.

Because export requirements change frequently, obtain the current export requirements by visiting the National Center for Import and Export, Animal Regulations Library at: **http://www.aphis.usda.gov/import_export/**

Export certificates are official documents, and they should be typewritten, accurate, and complete. If you have additional questions not answered by the Regulations Library, contact your APHIS –VS Area Office for assistance at: **http://www.aphis.usda.gov/animal_health/area_offices/**.

Horses

The international shipment of horses is sometimes delayed because all requested information is not included or because the animals are not identified completely on VS Form 17–140, U.S. Origin Health Certificate (OHC) or on forms designated by the country of destination submitted for approval by the accredited veterinarian. Many countries are now requiring their own form for animal importation and some countries require the OHC in addition to their own form, therefore you should always check with your APHIS –VS Area Office to be certain of the form(s) required.

The U.S. Origin Health Certificate (OHC) VS Form 17-145 for the Export of Horses From the United States to Canada is used for all horses going to Canada except horses for immediate slaughter. Horses for immediate slaughter are recorded on VS Form 17–140. This certificate can be obtained from the APHIS –VS Area Office. For the completed OHC to be valid, it must be reviewed and endorsed by the AVIC.

The VS Form 17-145 OHC should be typed or printed. It is valid for 30 days from the date of issue by the accredited veterinarian. The date of issue refers to the date the horse was inspected and determined to be healthy to move and is not necessarily the date the certificate was signed. The horse's description on the export certificate must match the description on VS Form 10–11, Equine Infectious Anemia Laboratory Test or official State EIA Laboratory Test form. Four copies of the CVI and either the original or a carbon copy of VS Form 10–11 (or official State EIA Laboratory Test form) are submitted for review and endorsement.

Photocopies and facsimile copies of VS Form 10–11 (or official State EIA Laboratory Test form) are not acceptable, although in certain situations as mentioned below, the testing

laboratory could be authorized to fax or e-mail the laboratory test results directly to the AVIC. VS Form 10–11 is not required for horses exported for immediate slaughter.

See appendix D for examples of VS Forms 17–140, 170-145, 17-6, and 10–11 and for instructions on completing them. For additional information on horse identification, see the section entitled "Current Animal Identification."

Poultry

VS Form 17–6, Certificate for Poultry or Hatching Eggs for Export, is used for the international movement of poultry or hatching eggs (see appendix D for an example of this form). You can obtain VS Form 17–6 from your nearest APHIS –VS Area Office. The NPIP Approval Number and NPIP Classification (blocks 9 and 10 on VS Form 17–6) can be obtained from your APHIS –VS Area Office. This information is also published annually in two books: the NPIP Directory of Participants Handling Egg-Type and Meat-Type Chickens and Turkeys and the NPIP Directory of Participants Handling Waterfowl, Exhibitory Poultry, Game Birds, and Ratites.

Dogs and Cats

USDA does not regulate the exportation of privately owned dogs and cats. Many foreign countries do regulate the entrance of dogs and cats from the United States. U.S. airlines usually require a health certificate for movement by air. The most common export certificate for dogs and cats is the APHIS Form 7001, U.S. Interstate and International Certificate of Health Examination for Small Animals.

Some countries require USDA endorsement but others do not. A few countries require an additional endorsement by the U.S. Department of State. The APHIS –VS Area Office in your State can provide additional information on this protocol.

The APHIS Form 7001 form is now available on line at:
http://www.aphis.usda.gov/library/forms/pdf/APHIS7001.pdf

The most definitive source of information in the United States regarding import regulations for pet animals is the U.S. embassy for the respective foreign country at:
http://www.state.gov/s/cpr/rls/fco/ or: **http://www.embassy.org/embassies/**

Issuing International Animal Movement Documents

United States Origin Health Certificates (OHC)

Certification statements, test results, vaccinations, animal identification, and other information appearing on VS Form 17–140, 17-145, 17-6, or APHIS 7001, are the responsibility of the issuing accredited veterinarian. When an AVIC endorses a health or inspection certificate, he or she is

• Certifying that the animals meet the importing country's requirements as far as can be determined;
• Verifying that the inspection, testing, and certification were made by an accredited veterinarian; and
• Certifying that the test results are negative and all certification statements are true and factual as far as can be determined.

Original or carbon copies (no photocopies or facsimile copies) of all laboratory test results must be included with the OHC when it is presented to USDA for endorsement. In certain situations, such as time constraints or lost original laboratory test results, with prior AVIC approval, test results can be faxed or e-mailed directly from the testing laboratory to the AVIC. After a certificate is endorsed, the certificate and supporting documents are returned to the practitioner or exporter.

Time Constraints

Sufficient time must be allowed to arrange isolations, conduct treatments, obtain test results, and meet other requirements for certification. Be sure that your client knows and understands these time constraints.

Certification Statements

All certification statements should be typed exactly as they appear in the requirements received from the APHIS –VS Area Office. Frequently certification statements must be made by the owner or agent of the animals, usually for both the herd of origin and the animals from the herd that are to be exported.

When herd certification statements are required by the importing country for periods greater than the time spent at the assembly points, the exporter and accredited veterinarian will be required to obtain proper certification statements on the herd health

status for both the assembly premises and the premises where the animals have been located for at least the 120 days before assembly for export.

For example, if the animals were on two premises during the 120 days before assembly, the certification statements would need to be prepared for each premises, including the assembly premises. A sample certification format that could be used by the accredited veterinarian and owner is shown below.

DECLARATION BY OWNER/AGENT OF THE ANIMALS TO BE EXPORTED TO (Name of Country)

I (block letters), the owner/agent of the (number) of animals whose official tag or other official identification/markings are listed below declare:

1. The animal(s) resided at (full address in block letters), the premises of origin since (full date), or since birth, and no clinical evidence of contagious or infectious disease has occurred on the premises during this time.
2. During the 6 months preceding export, or since birth, the animal(s) to be exported have not been subject to any official quarantine for contagious or infectious disease.

Eartag or other official identification/markings (block letters and numbers)

Written Signature and date of owner/agent: _____

If more than one veterinarian is involved in the preparation of the animal(s) for export, each accredited veterinarian who provided certification statements and performed tests or vaccinations, as well as the location where such inspections, tests, or vaccinations were performed, must be identified on the OHC. If test results, vaccinations, or certification statements are provided by a nonaccredited veterinarian, they are not acceptable. If you have any questions about certifying work that was done by another accredited veterinarian, call your APHIS –VS Area Office for instructions. The following format can be used by the issuing veterinarian:

I (block letters) certify that the certification statements, tests, and/or vaccinations included in this certificate of veterinary inspection were either performed and issued by me or I have the documents on file from the accredited veterinarian(s) listed below that they were performed and/or issued:

Accredited Veterinarian's Full Name, Location (City, State) and State License Number, and National Accreditation Number (NAN) (all in block letters).

Laboratory Tests

All tests for export must be conducted in USDA-approved laboratories (State or private diagnostic laboratories). Official retests must be conducted in the same laboratory where the initial test was performed. Contact your APHIS –VS Area Office for a list of approved laboratories. NVSL in Ames, IA, will conduct export-qualifying tests for dourine, glanders, and piroplasmosis and other tests that are not available from other laboratories. All submissions to NVSL must be accompanied by a VS Form 10–4, Laboratory Submission Form. When preparing to submit samples to NVSL, you should contact the local APHIS –VS Area Office because they may need to have the permission of the AVIC to submit samples to NVSL. See the section entitled "Laboratory Submissions."

Commonly Used International Export Certificates

The most commonly used international export certificates are listed below. For examples of each form, please refer to appendix D. You can get additional information regarding export certificates by visiting the National Center for Import and Export, Animal Regulations Library at: **http://www.aphis.usda.gov/import_export/**
or by contacting the APHIS –VS Area Office at:
http://www.aphis.usda.gov/animal_health/area_offices/

• VS Form 17–140, U.S. Origin Health Certificate for the export of livestock, embryos, semen, and horses for immediate slaughter.
• VS Form 17-145, U.S. Origin Health Certificate for the Export of Horses From the United States to Canada. This certificate should be used all horses exported to Canada except horses for immediate slaughter.
• VS Form 17–6, Certificate for Poultry or Hatching Eggs for Export.
• APHIS Form 7001, U.S. Interstate and International Certificate of Health Examination for Small Animals.

Because some countries require individualized certificates for entry of certain species, individualized export certificates have been developed for these special requirements. These are often used in place of VS Form 17–140 and sometimes used in addition to VS Form 17-140. You should always check with your APHIS –VS Area Office before every export shipment to confirm that you have the most recent protocol and form for the shipment.

Always remember you must insure the livestock to be exported meet the minimum U.S. livestock export requirements, which may be more than the receiving country requires.

Common Problems observed on CVIs or OHCs

The following are examples of typical errors that could affect the interstate or international movement of animals. Animals may be held at ports, confiscated, destroyed, refused entry, or returned to premises of origin because the certification, testing, and/or vaccinations needed are inaccurate or incomplete. At the very least, errors can result in unnecessary delays for your clients or patients. Please review these examples. If you have any questions, contact your nearest APHIS –VS Area Office or State animal health official for guidance.

- Failure to use the proper CVI or OHC. Check with the APHIS –VS Area Office or destination State animal health official if you have any questions.
- Test results or vaccination certificates (such as a rabies certificate) were not included.
- Accreditation status of issuing veterinarian is questionable. Accreditation is not automatic—you must have received written authorization stating that you are accredited.
- Owner or accredited veterinarian did not record complete name and address of place of origin and/or destination.
- Missing certification statements.
- Signature of issuing veterinarian is missing or illegible.
- Failure to be timely (CVI, OHC, or test results are old).
- Improper identification of animal.
- Improper test performed (such as the ELISA test for EIA when the AGID test was required, or the ELISA test was conducted for bluetongue).
- Illegible or incomplete writing.
- AV did not complete and submit EU forms with OHC when required.
- Owner or accredited veterinarian did not enclose appropriate user fee with OHC if required.

Additional information on user fees can be found at:
http://www.aphis.usda.gov/mrpbs/fmd/vs_import_export_fees.shtml
or contact your APHIS –VS Area Office at:
http://www.aphis.usda.gov/animal_health/area_offices/

Animal Identification

To control and eradicate animal diseases, epidemiologists must be able to trace the movement of animals. This goal can be realized only if the animals are properly identified and the individual and the herd, flock, or group identification are recorded. Requirements for official identification of livestock are defined in title 9 of the *Code of Federal Regulations* (9 CFR). As of this writing, USDA is developing a proposed rule for the traceability of livestock moving interstate. This proposed rule is targeted for publication the spring of 2011 with the final rule published 12 to 18 months later. This rule will provide specific requirements for the official identification of livestock moved interstate. Information on this proposed rule can be found at:
http://www.aphis.usda.gov/traceability/

As an accredited veterinarian, you are legally responsible for properly identifying animals and recording the identification on certain official documents, such as CVIs, test charts, and vaccination charts. It is essential that another individual be able to positively identify animals that you have listed on official documents. When documents require animal identification, record all forms of identification associated with the animal.

Acceptable means of identifying different species of animals are defined below. Official eartags are used for several species. The design, size, shape, color, and other characteristics of the official eartag will depend on the needs of the users, subject to the approval of the Administrator. The official eartag must be tamper-resistant and have a high retention rate in the animal. Official eartags must adhere to one of the following numbering systems:

(1) National Uniform Eartagging System (NUES). A numbering system for the official identification of individual animals in the United States that provides a nationally unique identification number for each animal. The first two numbers on a tag are the numbers assigned to a specific State. See tables 4 and 5 for assigned State numbers.

(2) Animal identification number (AIN). A numbering system for the official identification of individual animals in the United States providing a nationally unique identification number for each animal. The AIN contains 15 digits, with the first 3 being the country code (840 for the United States), the alpha characters USA, or the numeric code assigned to the manufacturer of the identification device by the International Committee on Animal Recording. The AIN beginning with the 840 prefix may be used only on animals born in the United States. An official eartag which contains or displays an AIN with an 840 prefix must bear the U.S. shield.

(3) Premises-based number system. The premises-based number system

combines an official premises identification number (PIN), as defined in this section, with a producer's livestock production numbering system to provide a unique identification number. The PIN and the production number must both appear on the official tag.

(4) Any other numbering system approved by the Administrator for the identification of animals in commerce.

The complete listing of Official Eartags is at **http://www.aphis.usda.gov/traceability/**
USDA-approved backtags cannot be used as the only identification for onfarm testing or for movement other than in slaughter channels. For the purposes of identifying animals, a Premises Identification Number (PIN) is a unique number assigned by a Federal or State animal health official to a livestock production unit that is, in the judgment of the SAHO or AVIC, epidemiologically distinct from other livestock production units.

Cattle Identification

Record all forms of identification if more than one form is present. (See figure 2 for an example of a calfhood vaccination identification, figure 3 for a depiction of cattle dentition to assess age, and table 3 for a list of bovine breeds and abbreviation codes.) In addition to listing the approximate age, gender, and breed of the animal, use one or more of the following identification methods:

- Official eartag. See definition above.
- Individual animal's registration tattoo accompanied by the official registration certificate issued by a recognized breed association.
- Official registration brand accompanied by official brand inspection certificates issued by a recognized brand inspection agency.
- Registration number of a breed association recognized by APHIS –VS in conjunction with an official eartag, tattoo, or brand.
- USDA-approved backtag. Backtags are used mostly in stockyards or slaughterhouses. These cannot be used as the only identification for onfarm testing.

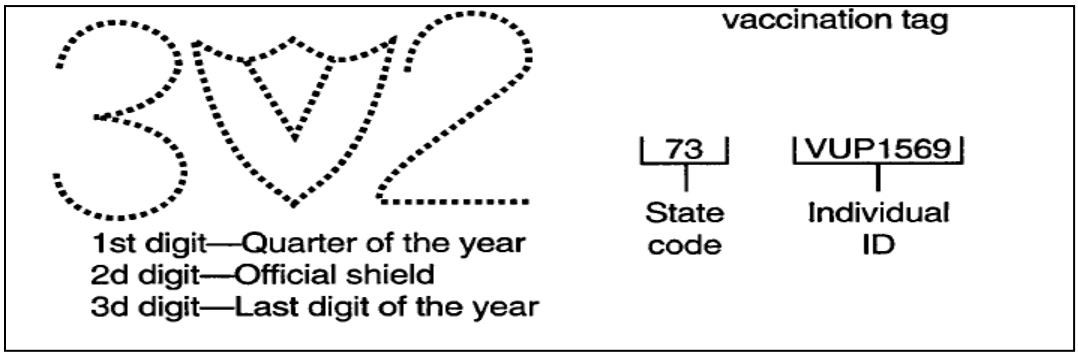


Figure 2— *Example of a Brucellosis calfhood vaccination identification.*

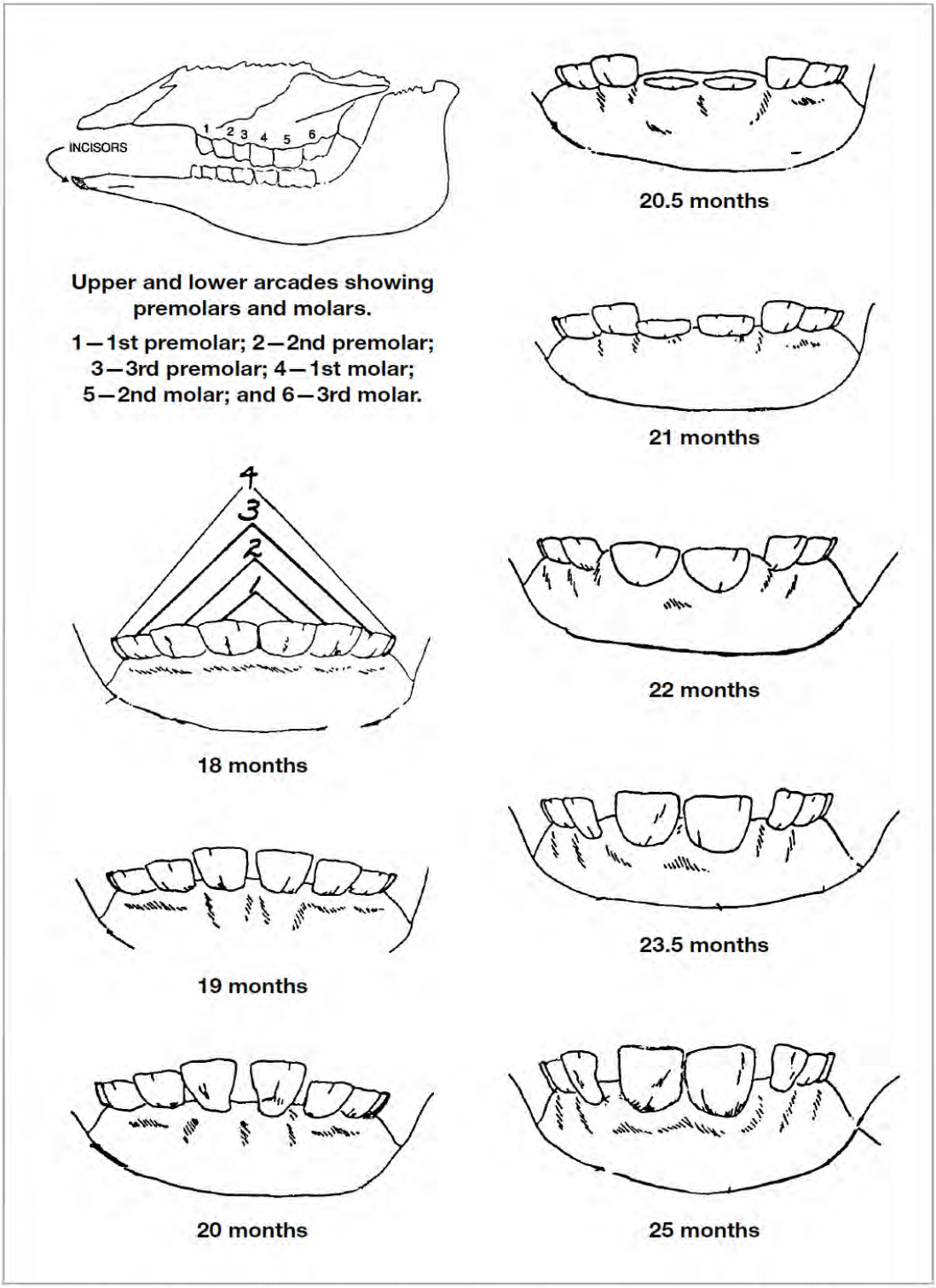


Figure 3—*Cattle dental formula. (Adapted from* Bovine Practitioner, No. 9–74, *and "Incisor Tooth Eruption, Development and Attrition," Texas A&M University.)*

Table 4—State codes, arranged numerically

Code	State	Code	State	Code	State
11	Maine	45	North Dakota	72	Louisiana
12	New Hampshire	46	South Dakota	73	Oklahoma
13	Vermont	47	Nebraska	74	Texas
14	Massachusetts	48	Kansas	81	Montana
15	Rhode Island	50	Delaware	82	Idaho
16	Connecticut	51	Maryland	83	Wyoming
21	New York	52	Virginia	84	Colorado
22	New Jersey	54	West Virginia	85	New Mexico
23	Pennsylvania	55	North Carolina	86	Arizona
31	Ohio	56	South Carolina	87	Utah
32	Indiana	57	Georgia	88	Nevada
33	Illinois	58	Florida	91	Washington
34	Michigan	61	Kentucky	92	Oregon
35	Wisconsin	63	Tennessee	93	California
41	Minnesota	64	Alabama	94	Puerto Rico
42	Iowa	65	Mississippi	95	Hawaii
43	Missouri	71	Arkansas	96	Alaska

Table 5—State codes, arranged alphabetically

State	Code	State	Code	State	Code
Alabama	64	Louisiana	72	Ohio	31
Alaska	96	Maine	11	Oklahoma	73
Arizona	86	Maryland	51	Oregon	92
Arkansas	71	Massachusetts	14	Pennsylvania	23
California	93	Michigan	34	Rhode Island	15
Colorado	84	Minnesota	41	South Carolina	56
Connecticut	16	Mississippi	65	South Dakota	46
Delaware	50	Missouri	43	Tennessee	63
Florida	58	Montana	81	Texas	74
Georgia	57	Nebraska	47	Utah	87
Hawaii	95	Nevada	88	Vermont	13
Idaho	82	New Hampshire	12	Virginia	52
Illinois	33	New Jersey	22	Washington	91
Indiana	32	New Mexico	85	West Virginia	54
Iowa	42	New York	21	Wisconsin	35
Kansas	48	North Carolina	55	Wyoming	83
Kentucky	61	North Dakota	45	Puerto Rico	94

Swine Identification

Current APHIS-approved means of swine identification devices (ID) are identified below. Approved swine ID and methods may change depending on technological advances or changes in the code of federal regulations. If you have questions / concerns regarding current animal identification devices that would be considered as official ID for your state; please contact your State Animal Health official or the AVIC overseeing your state for more information.

The current list of approved APHIS swine identification devices / methods includes:
- Official eartags.
- USDA backtags only when used on swine moving in slaughter channels.
- Official swine tattoos (issued and authorized by State or Federal Animal Health Officials) on swine moving in slaughter channels.
- Ear notching if the ear notching has been recorded in the book of record of a purebred registry association.
- Tattoos on the ear or inner flank of any swine if the tattoos have been recorded in the book of record of a swine registry association.
- For slaughter swine and feeder swine, an eartag or tattoo bearing the Premises Identification Number assigned by the State Animal Health Official to the premises on which the swine originated.
- Other official identification methods may be used if approved by the Administrator of APHIS or anyone authorized to act for the Administrator.

Equine Identification

With the current high level of interest within the horse industry regarding equine census estimates and potential disease movement, new methods for equine identification are rapidly being researched and developed. Many breed registries are either contemplating change or are in the process of changing the methods by which they identify horses. For that reason, specific breed requirements for identification are not listed here. Instead, this manual describes equine identification technologies currently available, in production in the United States, or in the late stages of development.

You should consider multiple technologies when you are either establishing or determining the unique identification of a horse. When shipping a horse interstate, APHIS recommends that the accredited veterinarian contact the State animal health officials of the State of destination to verify the specific identification requirements of the receiving State.

When shipping a horse internationally, the accredited veterinarian should contact the APHIS –VS Area Office to determine the identification requirements of the receiving country.

Types of identification and background, technology, and usage

Hot Iron or Fire Brand—
Background: Introduced by Spanish settlers (early 1800s).
Technology: Heated brand (by fire or electricity) applied to dermis at variable sites.
Usage: Individualized ranch or farm brands.

Lip Tattoo—
Background: Introduced by U.S. Army (late 1800s).
Technology: Ink and perforating plates applied to upper lip (buccal) mucosa.
Usage: Racing thoroughbreds (all thoroughbreds registered by genetic typing).

Freeze Mark or Cold Brand—
Background: New popularity for humanitarian reasons (recent decades).
Technology: Cryogenically cooled brand applied to dermis of the neck.
Usage: All Standardbreds (right neck) and Bureau of Land Management (BLM) wild horses/burros (left neck); Arabians have discontinued; many nonregistered "backyard" and farm horses to deter theft.

Electronic Identification (RFID)—
Background: Currently the most popular and computer compatible (this decade).
Technology: Implantable transponder activated when interrogated by radio frequency readers; thus, such units are known as Radio Frequency Implantable Devices (RFIDs). RFID readers are used to identify and display transponders, alphanumeric characters. Microchips are implanted in the left nuchal ligament (the USDA- and FDA-approved anatomical implant site for all equids in the United States). The International Standards Organization (ISO) now brings all major electronic identification and RFID manufacturers to unified standards. Universal readers are available.
Usage: Many foreign breed registries in North America, all horses tested for EIA in the State of Louisiana, and many nonregistered equids.

Integrated Circuitry (IC) Cards ("Smart Cards")—
Background: Future technology incorporated currently in several pilot studies. Technology: Electronic tool links any desired information to the equid's unique identification and stores these data on an IC chip built into a device resembling credit card. The card, retained by the

owner or other custodian, can be accessed only by persons using a second authorization card. These cards may be used in local management of the horse or herd by the owner, custodian, trainer, veterinarian, or other authorized person or may be connected via the Internet to regulatory agencies, breed associations, show offices, or other professional affiliates.
Usage: None currently in equids.

Iris Biometrics—
Background: Future technology based on 1994 patented technique in people.
Technology: Iris "code" by "demodulation" of iris pattern (geometric structure) is done through complex mathematics. Benefits in equine applications are that the use of the portable digital camera for imaging is fast and noninvasive.
Usage: None currently in equids.

Retinal Biometrics—
Background: New bovine–porcine technology attempts application to equine retina.
Technology: Vascular pattern of retina is recorded uniquely by algorithm. Benefits in equine applications are that the use of the portable digital camera for imaging is fast and noninvasive; additionally, it is designed to include a global positioning satellite (GPS) receiver to allow automatic encryption of date, time, and location of image capture.
Usage: None currently in equids.

Equine Colors and Markings

Determination of equine coat colors can be a challenge even to experienced equine identifiers. The names of most colors used to describe equids are unique to the species and can be counterintuitive; even experts often disagree. Some breed registries recognize only a limited number of colors; others are by definition limited to a single group of colors (e.g., Cleveland Bay). The best approach for equine identification is to use the basic terminology common among most breeds of horses, mules, or donkeys with a notation if the technical name of the color does not match the actual color observed. For example it may be appropriate to describe an older grey horse as "grey (appears almost white)" where possible.

Markings include patterns of white on the head and legs, hair whorls (cowlicks), scars, blemishes, and patterns of other colors superimposed on a base color. As determined by the purpose, white markings may be named, drawn in a picture, described in detail, or photographed.

When all possible modifications and variations are considered, there are dozens of named colors for equids. There is no single, standardized nomenclature for describing equine color and markings, and the inheritance of horse color is a science unto itself.

A summary at this level of detail will not be attempted here. Registry rules (which can be different between breeds), historical and cultural influences, and even regional differences within the United States all contribute to the difficulty in describing a single color-naming system. The objective of this section on equine identification is to explain the prevailing basic terminology that is useful for the identification of equids for animal health or regulatory purposes.

For identification, mules are usually described using the same terms as horses or using the ordinary names of colors. The traditional terms for describing the color of donkeys (includes burros and all asses) will be briefly described here, but they are also often described using the ordinary names of colors. There are a few good references on equine colors, and the reader is encouraged to review those works for a more detailed discussion of the subject.

Colors

The base color of horses occurs independently of any white superimposed on the underlying coat color. In addition to the white markings that may appear on the head or legs, white may appear on the body. When describing a horse's color, it is important to recognize the "points" of a horse as black or not black whether or not white markings are present. The **points** are the mane, tail, lower legs, and ear rims and are as important to recognize as the base color to name a color properly. Foals are often born a different color than they will be as adults. The adult color often shows up around the eyes and on the face first. Usually foals shed out to their adult color around 2 months of age.

There are three primary base coat colors in horses: **bay**, **chestnut**, and **black**. These colors are modified by various factors (genes), including dilution factors, to produce a huge variety of shades and specific color patterns. **Brown** (which some consider synonymous with dark bay) and **sorrel** (usually considered synonymous with, or a variation of, chestnut) are also basic colors that can help to identify most horses. Common modifications of the base colors include the colors **grey/gray** and **roan** as well as the **pinto** and **Appaloosa** color patterns. Finally, there are a host of colors created by modification or dilution factors that are given distinct names. Those considered here include **buckskin**, **dun**, **palomino**, **cremello**, and **white**. APHIS –VS gratefully acknowledges the cooperation of The Jockey Club in allowing us to reproduce common head and leg marking figures.

Basic Horse Colors—

• **Bay**: The coat color varies from yellow-tan to dark blood-red to brown and almost

black. The points (mane, tail, lower legs, ear rims) are always black unless white markings are present. Some registries use dark bay/brown as one color.
-Dark bay: The coat is brown with areas of tan on the head, shoulders, flanks, inside of the thighs, and the upper portions of the legs. The points are always black unless white markings are present. This color is also sometimes called brown.
• **Chestnut:** This color includes any shade of red from very light (blonde, sorrel) to dark red (liver chestnut). A chestnut can be so light in color as to give the appearance of a palomino or so dark that it looks brown or shows numerous black hairs throughout its coat. A chestnut always has points the same color or lighter compared with the body; the points are never black. In some breeds and much of the Western United States, sorrel is used synonymously with chestnut.
-Sorrel: A red to reddish yellow base coat with lighter shades of similar color (may be flaxen or blonde) in the mane and tail. This color is sometimes used synonymously with chestnut.
• **Black:** The entire coat is black excluding any white markings that might be present. The mane, tail, muzzle, flanks, and legs, must be all black with no areas of brown or tan coloration.
• **Brown:** Usually synonymous with dark bay and sometimes appearing almost black but with lighter tan coloration on the muzzle, flanks, or both. The points are always black unless white markings are present.

Modifications of Basic Coat Colors—
• **Grey/Gray:** Grey is a color modification superimposed over any base color on the body, head, and legs. The coat is a mixture of dark (usually black) and white hairs that become predominantly white with age. The grey horse always has dark/black skin. Markings on light grey horses can best be seen by noting the underlying pink skin in the area of the marking. In the young horse, black hair predominates, but as the horse ages, the white hair increases and the markings tend to fade. A grey horse may have distinct white markings or faded markings and always a grey or black mane, tail, and legs.
-Flea-bitten Grey: Flecks of the base coat (usually red but may be black) show through a mostly white body color.
• **Roan:** Most of the coat is a mixture of colored (usually red) and white hairs with the head and legs darker than the body. The colored hair predominates. As the horse ages, the proportion of white hair may increase but usually not to the extent this occurs in grey horses. If the red hair comes from the chestnut pattern, the mane, tail, and legs will be red. If the red hair comes from the bay pattern, the mane, tail, and legs will be black. Roan horses may have distinct or indistinct white markings.
-**Strawberry roan:** The coat color is a mixture of red and white hairs. The base color is chestnut/sorrel, and the points are not black.

– Blue roan: Similar to roan except there is a mixture of black and white hairs; the base color is black.
– Red roan: Also called bay roan. The coat color is a mixture of red and white hairs, but the base color is bay and the points are black.

Patterns Superimposed on Base Colors—
• **Appaloosa:** No single color is associated with Appaloosas. The term describes the appearance of an indefinite number of different white or dark spot patterns on a base color or solid white area. The spotted areas classically appear on the hip but may also occur on the loin, back, or over the entire body. The colors are named as the base color followed by "Appaloosa" (e.g., bay Appaloosa, blue roan Appaloosa, etc.). As a breed, the color is also associated with mottled or particolored skin typically found around the eyes and on the nose, lips, vulva or sheath; white sclera, and vertically striped hooves. Any combination of white markings is possible.
– Leopard Appaloosa: Has the appearance of a white horse covered with dark spots that are usually reddish.
• **Pinto:** Any of several breeds of horses that have large, irregular, asymmetric areas of white (with underlying pink skin) and a base color on any area of the body. Any base color is possible. This color is either named by the base color (e.g., chestnut pinto) or by describing the colors seen using common terms (e.g., red and white pinto). Although a specific breed and color registry, the term "paint" is often used interchangeably with "pinto" (e.g., black and white paint).
– Overo: Pinto pattern characterized by white that usually does not cross the back. At least one leg and often all four are dark colored, the body is often predominantly the base color, and the tail is usually one color.
– Tobiano: Pinto pattern with white across the back. Flanks are usually dark colored, generally all four legs are white, and the tail is often two color.
– Tricolor: Nontechnical term for a pinto with black (usually in the mane or tail) and white areas on top of a base color.

Dilution Modifications of Base Colors—
• **Buckskin:** A cremello dilution modification of any base color. Typically a gold or yellowish body color with a black mane and tail. Buckskins are usually black on their lower legs. Usually buckskin is used to describe horses without a dorsal stripe.
• **Dun:** Usually used as a general term for any of several light or dilution colors with a dark dorsal stripe (linebacked dun). Body color can be yellowish or gold as if a buckskin or more red as if a chestnut. Mane and tail may be black, brown, red, yellow, white, or mixed. Other primitive markings such as zebra stripes on the legs or a transverse stripe across the withers may be present.

– Red dun: A chestnut/sorrel dun with the body yellowish red; mane, tail, and dorsal stripe are darker red.
• **Palomino:** Body color is usually a golden yellow; mane and tail are blonde or almost white. Palominos do not have dorsal stripes.
• **Grullo:** Usually characterized by slate- (blue-grey) or mouse- colored hair (not a mixture of black and white hairs, but each hair is mouse colored) on the body with black mane and tail. Body color may be darker shades of beige. Grullos are usually black on their lower legs.
• **Cremello:** The palest horses that are not white. Usually very light beige or cream colored. Cremellos have pink skin and blue eyes.
• **White:** A rare coat color of pure white with pink skin and dark-colored eyes. White horses are not true albinos; albinos have pink eyes. Horses that appear to be white but have dark skin are actually grey.

Donkey Colors—
Some donkey colors are the same as those of horses; others are unique to the donkey. The points of a donkey are different from those of a horse. When describing the color of donkeys, "points" refer to the muzzle, eye rings, belly, and inside of the upper leg, which are almost always cream-colored. Cream-colored points may be called "white points" or "light points." The color of a donkey's points does not affect the name of the body color, but points are usually described separately as light as opposed to dark, blue, or black points. The areas described as points in horses (mane, tail, ear rims) are called trim when describing donkey colors but have the same significance when naming colors.
• **Grey (Dun):** This is the most common coat color of donkeys and is ash grey or bluish slate color with a dark dorsal stripe. This is not a true grey as in horses, because it does not become lighter with age. Cream-colored points are typical.
• **Blue Burro:** Another name for the grey dun.
• **Black, Brown, Dark Brown, Black-Brown:** Each refers to that body color with light points unless otherwise noted.
• **Red, Chestnut, Sorrel:** Refers to a chestnut, sorrel, or reddish body color.
• **Pink:** Very light strawberry red color. May have pink skin.
• **Spotted:** White spots on body of any base color; it can also appear like dark spots on white.
• **Roan:** White hairs mixed with colored hairs on body and head.

Markings
Natural markings include patterns of white on the head and legs, hair whorls (cowlicks), scars, and blemishes. Many white markings on the head and legs have common terms in the horse world. As determined by the purpose, white markings may be simply named, drawn in a picture, described in detail, or photographed. White markings always have underlying pink skin, which is sometimes used to describe the exact margin of the marking (e.g., " snip

extending into left nostril"). Most markings are solid white, but they can be mixed with the base coat color. Leg markings are always named by the most proximal extent of the marking on a given limb (fig 5). Leg markings may be described by naming the anatomic location of the most proximal extent of the marking (e.g., cannon) or using traditional terms (e.g., sock). The anatomic terms are preferred for identification purposes because not all breed registries agree on the lay terms.

Markings that have been produced after birth are considered acquired markings. Tattoos, brands, freeze marks, scars, and pin-firing marks are the most common examples. The location and shape of these marks are sometimes also described as markings. On plain-colored horses without natural white markings, these features can be very useful along with hair whorls to identify a horse. Other variations seen on the coat are not generally considered markings. Dapples are a repeating pattern of slightly darker and lighter hair in small circles. Dappling is most common on grey horses but may occur with any color. Dappling is not permanent but may vary in any particular individual with season, nutritional status, or physical condition. For this reason, dapples re not generally recorded for identification. Ticking is small spots of flocks of white hair often only consisting of several adjacent white hairs that can occur in the base coat. Ticking tends to increase with age. Ticking can generally be noted when identifying a horse, by the exact location and amount of ticking may change over time.

Common White Head Markings (fig. 4)—
• **Star:** A white spot or any shape found on the forehead above the rostral corner of the eye. The location, size, and shape can be described or drawn in relation to other structures of the face where appropriate.
– Bordered star: Having the coat color mixed with the white hair along the outer edge.
• **Strip:** A white marking on top of the nasal bones starting at the eye level or below and ending on or above the proximal edge of the nostrils. May be connected or disconnected to a star. The width, length, and type (connected, disconnected, broken) can be drawn or described as needed. Also sometimes erroneously called a stripe.
– Bordered strip: The coat color is mixed with the white hair along the outer edge.
– Broken strip: The strip is disconnected from itself at one or more points.
• **Snip:** A separate white or flesh-colored marking usually found between the nostrils. May extend into the nostril or to the upper or lower lip according to some breed registries.
• **Upper/Lower lip, chin:** White or flesh-colored markings in these areas named separately by some registries. Also sometimes called a chin spot or patch.
• **Star/Strip/Snip/Upper/Lower Lip Connected:** Any of the adjacent combinations of these markings may be described as connected when they touch. For example, "star and strip connected, lower lip disconnected" or "star, strip, and snip connected."
• **Stripe:** Usually used to describe a long, narrow star, strip, and snip connected.
• **Blaze:** A wide, connected star, strip, and usually snip extending laterally below the top of the nasal bones but not including the eyes or nostrils.

• **Bald:** A very wide blaze including at least one eye and usually both nostrils.

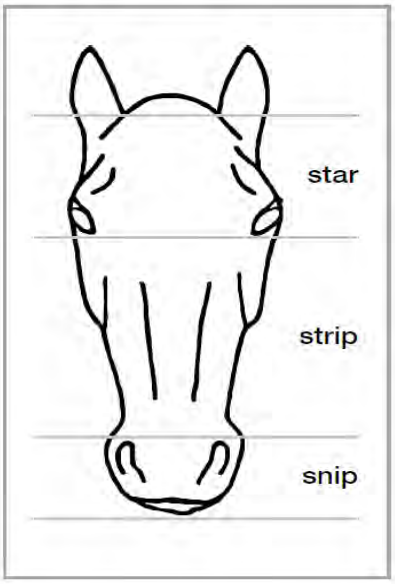


Figure 4—*White markings on the head of equids are named according to their location. Many combinations of connected or disconnected markings are possible (e.g., "strip, snip" or "star, strip snip connected").*

White Leg Markings (fig. 5)—
• **Partial heel:** The medial (inside) or lateral (outside) heel may be white; called a partial heel on the white side.
• **Heel:** Both heels (the entire heel) of the hoof may be white.
• **Coronet/Coronary band:** White begins at the hoof and extends proximally about an inch or less than halfway up the pastern.
• **Half-pastern:** The leg is white from the hoof up to and including the lower half of the pastern.
• **Pastern:** The leg is white to the top of the pastern below the fetlock.
• **Fetlock/Ankle:** White extends up to the top of the fetlock.
• **Half-Cannon/Half-Stocking/Sock:** White extends from the hoof up to and including the lower half of the cannon bone.
• **Cannon/Three-quarter Stocking:** White extends to the proximal end of the cannon bone below the carpus (knee).
• **Knee/Hock/Stocking:** White extends up to or just to the top of the carpus (knee) or tarsus (hock).
• **Above Knee/Hock, High White:** White extends above the carpus (knee) or tarsus (hock).
• **Ermine spots:** Refer to small, dark spots in white leg markings that are usually found just above the hoof.

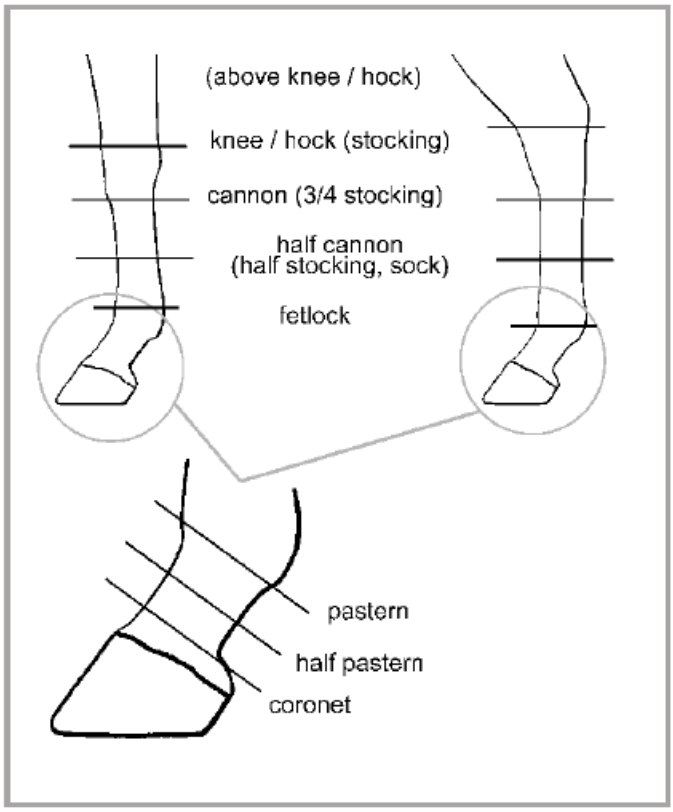


Figure 5—*Leg markings are described by naming the most proximal extent of the white area on each limb.*

Other Natural Markings

• **Hair Whorl/Rosette/Cowlick:** Hair whorls are patterns, usually circular, in which the direction of hair growth changes. Hair whorls are permanent and cannot be brushed away or clipped out. There is usually one whorl in the center of the forehead, often between the eyes. These single whorls are not typically described as unique markings; however, the distance above or below the eye level could be noted. Less frequently, two or more whorls are found on the forehead. When present, the number and locations of multiple whorls should be described if appropriate. The presence (and location if present) or absence of any whorls or cowlicks on the side of the neck near the mane can also be a useful aid in identification, particularly when a horse has few white markings and no tattoo, brand, or similar feature.

• **Dimples/Prophet's thumbprints:** Permanent, easily seen indentations in muscles just under the skin. Dimples are usually found at the point of one or both shoulders and in the neck muscles.

• **Curly coat:** A rare variation of hair growth resulting in exceedingly curly body, mane, and tail hair. The curly trait is inherited and is not related to hirsutism. The curly appearance occurs to varying degrees but usually affects the mane and tail (as opposed to hirsutism),

and curly horses may shed out their mane and tail in addition to their body coat in the spring.

• **Chestnuts (on the legs)/Night eyes:** Chestnuts are hard, horny growths or patches of cornified skin found inside the horse's legs. Chestnuts may grow long but when fl at have a distinct shape. The presence, location, and shape of the chestnuts can help uniquely identify a horse.

Acquired Equine Markings

• **Tattoos:** The tattoo is a group of numbers with or without a letter applied to the underside of the upper lip. In Thoroughbred horses, the letter indicates the birth year of the horse (A=1997, B=1998, etc.), and the numbers correspond to the numbers found on the registration certificate. Imported Thoroughbreds have an asterisk rather than a letter in their tattoo.

• **Scars:** Many scars produced by accident are permanent and can be seen throughout the life of the horse; they should therefore be noted.

• **Pin firing marks:** Although not common today, the procedure of pin firing the legs of a horse leaves permanent scars. This information can be useful for identification.

• **Brands:** A hot or cold (freeze mark) brand may be found on various areas but is most commonly found on the hip or neck. Some brands are for breed or farm identification; others use numbers or symbols unique to each horse. For example, the Bureau of Land Management uses an angle-numeric system for recording unique numbers on the left side of the neck under the mane (fig. 6).

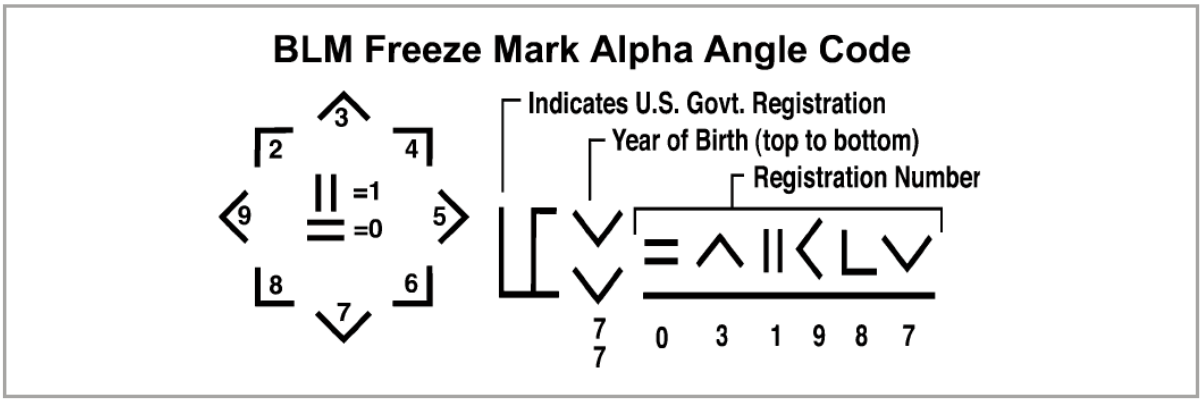


Figure 6—*The Bureau of Land Management (BLM) applies a unique angle-numeric freeze mark to the left side of the neck, under the mane, on each wild horse or burro it removes from the range.*

Information on aging a horse by teeth using color photos is contained in Appendix G at the end of this Reference Guide.

Sheep and Goat Identification

In addition to listing an animal's age, gender, and breed, use one of the following identification methods. (See fig. 10 for a depiction of sheep dentition, table 7 for information on tooth eruption in sheep, and tables 8a and 8b for lists of goat breeds and sheep breeds.)

• Official sheep and goat eartags
  - Serial number tags are issued to accredited veterinarians for use in completing CVIs or test charts when the animal is not already officially identified and the owner does not have official eartags to use.
  - Call 1-866-USDA-TAG to request free official sheep and goat serial eartags. Accredited veterinarians may alternatively elect to purchase official RFID "840" sheep and goat tags for these purposes directly from an approved tag manufacturer.
  - Flock owners likewise may request free official flock ID tags by calling the same number or may purchase official flock ID or "840" sheep and goat tags from an approved tag manufacturer. Flock ID tags are imprinted with the flock ID number and an individual animal number.

• Legible registration tattoo when the animal is accompanied by the registration certificate or a CVI listing the required information.

• Legible Flock ID tattoos composed of the Flock Identification Number assigned by APHIS and an individual animal number unique within the flock. (To get a Flock ID assigned flock owners can call 1-866-USDA-TAG)

• See 9 CFR parts 79.2 and 79.3 for exemptions or other options.

NOTE: Anyone who applies official identification must maintain records. For detailed information refer to the Scrapie Eradication Uniform Methods and Rules, Part III.B.2 at http://www.aphis.usda.gov/animal_health/animal_diseases/scrapie/downloads/umr_scrapie.pdf> (For additional information, call1-866-USDA-T AG or contact your local APHIS –VS Area Office.)

Table 7 – Eruption and replacement of teeth in sheep

Teeth	Teeth Time of eruption1	Teeth	time of replacement1
Di /1	Before birth—up to 8 days	I /1	12–18 months
Di /2	Before birth	I /2	21–24 months
Di /3	Before birth	I /3	27–36 months
Di /4	Birth—up to 8 days	I /4	36 – 48 months
Dp 2/2	Before birth—up to 4 weeks	P 2/2	21–24 months
Dp 3/3	Before birth—up to 4 weeks	P 3/3	21–24 months
Dp 4/4	Before birth—up to 4 weeks	P 4/4	21–24 months
M 1/1	3 months		
M 2/2	9 months		
M 3/3	18 months		

1 *The lower figures are for early-maturing breeds; the higher figures are for late-maturing breeds. Adapted from: Schummer, August; Nickel, Richard; Sack, Wolfgang Otto. 1979.* The viscera of the domestic mammals, *second ed. New York: Springer–Verlag.*

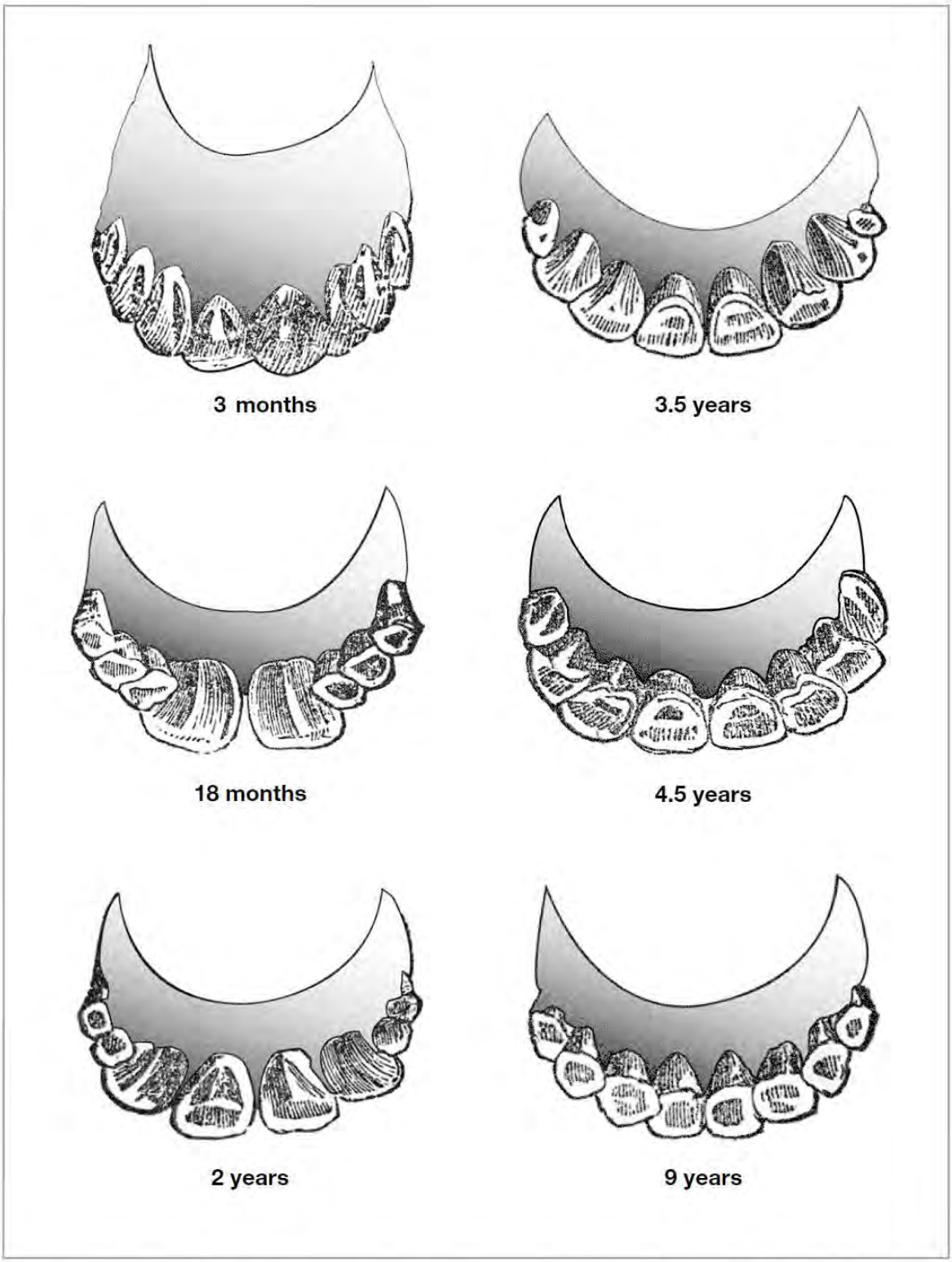


Figure 10—*Dentition patterns in sheep. (Scanned from A. Liautard, MD. 1910. How to tell the age of the domestic animals. New York: William R. Jenkins Co.)*

	Table 8a Sheep Breed Code		
CODE	DESCRIPTION,SPECIES	CODE	DESCRIPTION,SPECIES
AB	American Blackbelly Sheep,OVI	LI	Lincoln,OVI
BD	Babydoll Sheep,OVI	ME	Merino,OVI
BB	Barbados Blackbelly,OVI	SM	Miniature Southdown,OVI
BW	Black Welsh Mountain,OVI	MT	Montadale,OVI
BF	Black-faced,OVI	MF	Mottle-faced,OVI
HL	Bluefaced Leicester,OVI	ML	Mule Sheep,OVI
BM	Booroola Merino,OVI	MU	Multiple Breeds Present,OVI
BC	Border Cheviot,OVI	NC	N. Country Cheviot,OVI
BL	Border Leicester, OVI	NT	Natural Colored, OVI
CD	California Red,OVI	NA	Navajo-Churro,OVI
CM	California Variegated Mutant,OVI	NS	Not Specified,OVI
CA	Canadian Arcott,OVI	OX	Oxford,OVI
CH	Charolais,OVI	PA	Panama,OVI
CV	Cheviot,OVI	PE	Perendale,OVI
CF	Clun Forest,OVI	DP	Polled Dorset,OVI
CO	Columbia ,OVI	PO	Polypay,OVI
CP	Coopworth,OVI	RA	Rambouillet,OVI
CS	Cormo,OVI	RN	Romanov,OVI
CR	Corriedale,OVI	RM	Romnelet,OVI
CT	Cotswold,OVI	RO	Romney,OVI
DE	Debouillet,OVI	RL	Royal White,OVI
DM	Delaine-Merino,OVI	SB	Scottish Blackface,OVI
DR	Dorper,OVI	SH	Shetland,OVI
DO	Dorset,OVI	SR	Shropshire,OVI
EF	Eastern Friesian,OVI	SO	Soay/British Soay,OVI
FN	Finnish Landrace (Finn),OVI	OS	"Solid face color, not black",OVI
GL	Gotland,OVI	ST	Southdown,OVI
GC	Gulf Coast (FL or LA Native),OVI	SC	St Croix,OVI
HR	"Hairsheep, crossbred",OVI	SU	Suffolk ,OVI
HA	Hampshire,OVI	TA	Targhee,OVI
HE	Herdwick,OVI	TS	Teeswater,OVI
DH	Horned Dorset,OVI	TE	Texel,OVI
IC	Icelandic,OVI	TU	Tunis,OVI
IF	Ile De France,OVI	UK	Unknown,OVI
JE	Jacob,OVI	WE	Wensleydale,OVI
KA	Karakul,OVI	WD	White Dorper,OVI
KT	Katahdin,OVI	WF	White-faced ,OVI
LE	Leicester,OVI	WH	Wiltshire Horn,OVI

Table 8b Goat Breed Code Table

BREED CODE	Goat Breed Code Table DESCRIPTION,SPECIES	BREED CODE	DESCRIPTION,SPECIES
AG	Angora,CAP	ND	Nigerian Dwarf,CAP
AL	Alpine,CAP	NS	Not Specified,CAP
BO	Boer,CAP	NU	Nubian,CAP
CS	Cashmere,CAP	OB	Oberhasli,CAP
DR	Dairy-type crossbred,CAP	PG	Pygora,CAP
FI	Fiber-type crossbred,CAP	PY	Pygmy,CAP
FI	Fiber-type crossbred,CAP	PY	Pygmy,CAP
GG	Golden Guernsey,CAP	SA	Saanen,CAP
KI	Kiko,CAP	SB	Sable,CAP
LN	La Mancha,CAP	SP	Spanish,CAP
MT	Meat-type crossbred,CAP	SV	Savannah,CAP
MU	Multiple Breeds Present,CAP	TO	Toggenburg,CAP
MY	Myotonic,CAP	UK	Unknown,CAP

Fowl Identification

List the correct species name, including scientific name if known, along with either a leg band or a wing tattoo. For individual pet birds, age and color markings should be listed as well. Leg bands are available from the Official State Representatives for the NPIP. Contact information for these representatives can be found at: http://www.aphis.usda.gov/animal_health/animal_dis_spec/poultry/

Dog and Cat Identification

List the animal's age, gender, breed, and name along with a collar number, tattoo, or electronic identification if available. Color, markings, and weight should be listed as well.

Compliance and Regulations

Compliance

The forms you submit to APHIS as an accredited veterinarian are scrutinized by VS personnel for accuracy and completeness. When errors or irregularities are found, APHIS management may request help from investigators in the agency's Investigative and Enforcement Services (IES) unit. But in many cases, the APHIS–VS Area Office first works with the accredited veterinarian to resolve the issue.

IES' role is to gather all the pertinent facts regarding the issue and present them to appropriate VS officials in an investigative case report. VS officials are responsible for determining the appropriate disposition of the investigative case file.

Many of the inquiries that accredited veterinarians receive from IES investigators involve situations in which the interstate movement of livestock failed to meet State or Federal requirements. IES investigators look into allegations that an accredited veterinarian did not abide by the Standards for accredited veterinarian duties identified in 9 CFR part 161.4. A copy of 9 CFR part 161 is included in appendix A of this Guide and may also be found at: **http://www.aphis.usda.gov/animal_health/vet_accreditation/downloads/CFR_Parts_160-161-162.pdf**

If you are the subject of an IES investigation, the IES investigator will explain the alleged violation to you during the interview process. It is important that you present the facts as well as your reasons for handling a situation in a particular way. In accreditation cases especially, VS officials are interested in all the background information regarding the alleged violation. All pertinent case information is compiled and evaluated by VS officials. A decision is then made as to how to proceed with disposition of each case.

The investigator may ask you to sign an affidavit containing your statement about the alleged violation. IES investigators are authorized to take affidavits and can explain what an affidavit is and what it means.

Dispositions can include letters of information or warning, informal conferences, formal hearings, suspension or revocation of accreditation, and civil and criminal penalties. APHIS strongly supports these quality-control mechanisms in the interest of furthering the agency's mission of protecting American agriculture.

The Role of IES

IES' primary responsibility is to investigate violations of APHIS regulations. IES investigators nationwide provide assistance to VS with the following activities:
• Interviewing and collecting information from accredited veterinarians, witnesses, alleged violator(s), and others involved in the alleged violation(s);
• Identifying applicable sections of the CFR, acts, and laws;
• Collecting evidence associated with alleged violations;
• Preparing investigative case files; and
• Working with the VS program officials to assess appropriate penalties and sanctions.

Your Responsibility for Compliance

The Animal Health Protection Act (AHPA) governs the accreditation of veterinarians as codified in 9 CFR parts 160 and 161. As an accredited veterinarian, you should familiarize yourself with these regulations because you are obliged to comply with these standards. Noncompliance can result in violations and possible administrative, civil, or criminal sanctions.

The following are a few examples of violations of the veterinary accreditation standards identified in 9 CFR 161.3 that IES investigators may cite:
• 161.4(b)—Failing to complete an official form accurately and fully. Submitting incomplete forms or leaving sections blank is a violation.
• 161.4(d)—Failing to perform an official test and to submit specimens. Submitting fraudulent blood samples for official testing is a violation.
• 161.4(h)—Failing to keep oneself currently informed on regulations pertaining to procedures applicable to disease control and eradication programs.
• 161.4(j)—Failing to ensure the security and proper use of official certificates, reports, tags, and similar items or documents issued to you. Allowing an unauthorized person such as an owner or a broker to issue official certificates is a violation.

Actions and Penalties

All pertinent case-file information is compiled by IES and evaluated by VS officials. The APHIS –VS AVIC determines the appropriate enforcement action for cases involving violations of Veterinary Accreditation Program regulations. USDA may carry out one or more of the following actions:

• Provide written notification when the accredited veterinarian has not complied with the Standards for Accredited Veterinarian Duties;
• Hold an informal conference; and/or
• Proceed with an administrative hearing before an administrative law judge. USDA will then determine the final disposition and penalties, if applicable, and may take one or more of the following actions:

- Issue a written notice of information or warning;
- Suspend or revoke veterinary accreditation; and/or
- Pursue civil or criminal penalties through the Office of the General Counsel and/or Department of Justice.

AHPA does not allow for monetary penalties for violations of the Veterinary Accreditation Program. However, if your actions involve interstate violations of livestock movement regulations or if your actions contribute to any violations of AHPA other than veterinary accreditation, your case may be referred to the Department of Justice and you may be assessed civil or criminal monetary penalties.

IES Contact Information

IES contributes to the overall APHIS mission to protect American agriculture by providing regulatory enforcement support. IES has investigators nationwide.
IES' headquarters office is located at:

USDA, APHIS, MRPBS, IES
4700 River Road, Unit 85
Riverdale, MD 20737–1234

If you have any questions about IES, please contact the staff by telephone at (301) 734–8684 or visit the IES Web site at **http://www.aphis.usda.gov/ies**/

Appendix A – 9 CFR PARTS 160, 161, and 162

DEPARTMENT OF AGRICULTURE
Animal and Plant Health Inspection Service
9 CFR Parts 160, 161, and 162
[Docket No. APHIS-2006-0093]
RIN 0579-AC04
National Veterinary Accreditation Program
AGENCY: Animal and Plant Health Inspection Service, USDA.
ACTION: Final rule.

PART 160—DEFINITION OF TERMS

§ 160.1 Definitions.

For the purposes of this subchapter the following words, phrases, names and terms shall be construed, respectively, to mean:

Accredited veterinarian. A veterinarian approved by the Administrator in accordance with the provisions of part 161 of this subchapter to perform functions specified in subchapters B, C, and D of this chapter.

Administrator. The Administrator of the Animal and Plant Health Inspection Service or any individual authorized to act for the Administrator.

Animal, animals. All animals except humans, including but not limited to cattle, sheep, goats, other ruminants, swine, horses, asses, mules, zebras, birds, and poultry.

Animal and Plant Health Inspection Service. The Animal and Plant Health Inspection Service, United States Department of Agriculture.

APHIS. The Animal and Plant Health Inspection Service.

Approved digital signature. Digital signatures approved by the Administrator for electronic transmission, for example, via a computer. To be approved, a digital signature must be able to verify the identity of the accredited veterinarian signing the document and indicate if the integrity of the data in the signed document was compromised.

Category I animals . Any animals other than Category II animals, e.g., cats and dogs.

Category II animals . Food and fiber animal species; horses; birds; farm-raised aquatic animals; all other livestock species; and zoo animals that can transmit exotic animal diseases to livestock.

Examine, examination. Physical study of an individual animal that enables an accredited veterinarian to determine if any abnormality in physical condition or bodily function is suggestive of clinical signs of communicable disease.

Herd or flock health plan . A written herd or flock health management plan, which may include an agreement signed by the owner of a herd or flock, the accredited veterinarian, and a State or APHIS representative, in which each participant agrees to undertake actions specified in the agreement to maintain the health of the animals and detect signs of communicable disease.

Inspect, inspection. Visual study of the physical appearance, physical condition, and behavior of animals (singly or in groups) that enables an accredited veterinarian to determine whether any abnormality in physical condition or bodily function is evident.

Issue. The distribution, including electronic transmission, of an official animal health document that has been signed.

Official certificate, form, record, report, tag, band, or other identification. Means any certificate, form, record, report, tag, band, or other identification, prescribed by statute or by regulations issued by the Administrator, for use by an accredited veterinarian performing official functions

under this subchapter.
Qualified accredited veterinarian (QAV). An accredited veterinarian who has been granted a program certification by the Administrator pursuant to §161.5 of this subchapter based on completion of an APHIS-approved orientation or training program.
Regular health maintenance program. An arrangement between an accredited veterinarian and a livestock producer whereby the veterinarian inspects every animal on the premises of the producer at least once every 30 days.
Sign, (Signed). For an accredited veterinarian to put his or her signature in his or her own hand, or by means of an approved digital signature, on a certificate, form, record, or report. No certificate, form, record, or report is signed if:
(1) Someone other than the accredited veterinarian has signed it on behalf of or in the name of the accredited veterinarian, regardless of the authority granted them by the accredited veterinarian; or
(2) If any mechanical device, other than an approved digital signature, has been used to affix the signature.
State. Any State, the District of Columbia, Puerto Rico, Guam, the Northern Mariana Islands, the Virgin Islands of the United States, and any other territory or possession of the United States.
State Animal Health Official. The State animal health official who is responsible for the livestock and poultry disease control and eradication programs of a State.
Veterinarian-in-Charge. The veterinary official of APHIS who is assigned by the Administrator to supervise and perform the official work of APHIS in a State or group of States.

PART 161—REQUIREMENTS AND STANDARDS FOR ACCREDITED VETERINARIANS AND SUSPENSION OR REVOCATION OF SUCH ACCREDITATION

§ 161.1 Statement of purpose; requirements and application procedures for accreditation.

(a) This subchapter concerns a program administered by APHIS to accredit veterinarians and thereby authorize them to perform, on behalf of APHIS, certain activities specified in this chapter. This program is intended to ensure that an adequate number of qualified veterinarians are available in the United States to perform such activities.
(b) *Categories of accreditation* . A veterinarian may be accredited as a Category I veterinarian or a Category II veterinarian. A veterinarian who is accredited under Category I is only authorized to perform accredited duties on Category I animals, as defined in §160.1. A veterinarian who is accredited under Category II is authorized to perform accredited duties on both Category I animals and Category II animals.
(c) *Application for initial accreditation* . A veterinarian may apply for accreditation by completing an application for accreditation and submitting it to APHIS. In completing the application, the veterinarian will choose one of the accreditation activity categories, either Category I or Category II, as discussed in paragraph (b) of this section. Applications for Category I accreditation must include certification that the applicant is able to perform the tasks listed in paragraph (g)(1) of this section. Applications for Category II accreditation must include certification that the applicant is able to perform the tasks listed in paragraph (g)(2) of this section. An accredited veterinarian must not perform duties requiring a program certification unless he or she is accredited under Category II and qualified to perform such duties in accordance with §161.5 of this part.
(d) *Review of application* . Applications for accreditation received by APHIS shall be forwarded to the State Animal Health Official for the State in which the veterinarian wishes to perform

accredited duties for approval. Within 14 days after receiving an application, a State Animal Health Official shall either endorse the application or send a written statement to the Administrator explaining why it was not endorsed; but if the State Animal Health Official fails to take one of these actions within 14 days, APHIS shall proceed to review the application. The Administrator will review the application and the written statement, if any, and determine whether the applicant meets the requirements for accreditation contained in this part.

(e) *Accreditation requirements* . The Administrator is hereby authorized to accredit a veterinarian when he or she determines that:

(1) The veterinarian is a graduate with a Doctorate of Veterinary Medicine or an equivalent degree (any degree that qualifies the holder to be licensed by a State to practice veterinary medicine) from a college of veterinary medicine;

(2) The veterinarian is licensed or legally able to practice veterinary medicine in the State in which the veterinarian wishes to perform accredited duties. APHIS will confirm the licensing status of the applicant by contacting the State board of veterinary medical examiners or any similar State organization that maintains records of veterinarians licensed in a State;

(3) The veterinarian has completed initial accreditation training, using content provided by APHIS; and

(4) The veterinarian has completed an orientation program approved by the Veterinarian-in-Charge for the State in which the veterinarian wishes to perform accredited duties, and upon completion of the orientation, has signed a written statement listing the date and place of orientation, the subjects covered in the orientation, and any written materials provided to the veterinarian at the orientation. The Veterinarian-in-Charge shall also give the State Animal Health Official an opportunity to review the contents of the orientation, and invite him or her to participate in developing orientation materials and conducting the orientation. The veterinarian applying for accreditation must have completed the orientation program within 3 years prior to submitting the application for accreditation. The core orientation program shall include the following topics:

(i) Federal animal health laws, regulations, and rules;

(ii) Interstate movement requirements for animals;

(iii) Import and export requirements for animals;

(iv) USDA animal disease eradication and control programs;

(v) Laboratory support in confirming disease diagnoses;

(vi) Ethical and professional responsibilities of an accredited veterinarian;

(vii) Foreign animal disease awareness;

(viii) Animal health emergency management; and

(ix) Animal health procedures, issues, and information resources relevant to the State in which the veterinarian wishes to perform accredited duties.

(f) *Change in accreditation category* . (1) *Category I to Category II* . A veterinarian who is accredited under Category I may become accredited under Category II if the veterinarian applies for accreditation under Category II by completing an application for accreditation, including certification that the applicant is able to perform the tasks listed in paragraph (g)(2) of this section, and submitting it to APHIS. The veterinarian must also have fulfilled the training requirements in §161.3(b) that are associated with renewal of accreditation under Category II.

(2) *Category II to Category I* . A veterinarian who is accredited under Category II may become accredited under Category I if the veterinarian applies for accreditation under Category I by completing an application for accreditation, including certification that the applicant is able to

perform the tasks listed in paragraph (g)(1) of this section, and submitting it to APHIS. The veterinarian must also have fulfilled the training requirements in §161.3(b) that are associated with renewal of accreditation under Category I.

(g) *Tasks that applicants for accredited status must be able to perform* . Applicants for accredited status must be able to:

(1) *Category I* . (i) Perform physical examination of individual Category I animals to determine whether they are free from any clinical signs suggestive of communicable disease.

(ii) Recognize the common breeds of Category I animals and accurately record breed information on official documents.

(iii) Apply common animal identification for Category I animals.

(iv) Properly complete certificates for domestic and international movement of Category I animals.

(v) Perform necropsies on Category I animals.

(vi) Recognize and report clinical signs and lesions of exotic animal diseases that occur in Category I animals.

(vii) Vaccinate Category I animals and accurately complete the vaccination certificates.

(viii) Properly collect and ship specimen samples to the appropriate laboratory for testing with complete and accurate paperwork.

(ix) Develop appropriate biosecurity protocols, as well as cleaning and disinfection protocols, to control communicable disease spread in Category I animals.

(2) *Category II* . (i) Perform physical examination of individual animals and visually inspect herds or flocks to determine whether the animals are free from any clinical signs suggestive of communicable disease.

(ii) Recognize the common breeds of Category I and Category II animals, including the types of poultry as defined by the National Poultry Improvement Plan in subchapter G of this chapter and the common breeds of livestock, and be able to accurately record breed information on official documents.

(iii) Recognize all USDA animal identification systems.

(iv) Estimate the age of livestock using a dental formula.

(v) Apply USDA-recognized identification (e.g., eartag, microchip, tattoo) for the USDA animal identification system.

(vi) Certify the health status of an avian flock regarding diseases of domestic or international regulatory concern, and evaluate records pertaining to poultry flock testing and participation in Federal and State poultry health programs and classifications.

(vii) Properly complete certificates for domestic and international movement of animals.

(viii) Apply and remove official seals.

(ix) Perform necropsies on animals.

(x) Recognize and report clinical signs and lesions of exotic animal diseases.

(xi) Develop a herd or flock health plan consistent with requirements in subchapters B, C, and D of this chapter.

(xii) Vaccinate for USDA program diseases and accurately complete the vaccination certificate.

(xiii) Properly collect and ship sample specimens to an appropriate laboratory for testing with complete and accurate paperwork.

(xiv) Properly perform testing for tuberculosis (e.g., caudal fold test).

(xv) Develop appropriate biosecurity protocols, as well as cleaning and disinfection protocols, to control communicable disease spread.

(xvi) Explain basic principles for control of diseases for which APHIS or APHIS-State cooperative programs presently exist.
(h) *Authorization to perform duties* . An accredited veterinarian may not perform accredited duties in a State until after receiving written authorization from APHIS. If a Category I accredited veterinarian completes the necessary training requirements and becomes a Category II accredited veterinarian, the veterinarian may not perform Category II accredited duties in a State until after receiving written authorization from APHIS.
(Approved by the Office of Management and Budget under control number 0579–0297)

§ 161.2 Performance of accredited duties in different States.

(a) If an accredited veterinarian wishes to perform accredited duties in a State other than the State in which the veterinarian was initially accredited in accordance with §161.1(e), the accredited veterinarian must complete an application to request authorization to perform accredited duties in the new State from the Veterinarian-in-Charge of that State. The Veterinarian-in-Charge of the new State may require the accredited veterinarian to complete, prior to performing any accredited duties in the new State, an orientation in animal health procedures and issues relevant to the new State. The Veterinarian-in-Charge shall review the content of each such orientation and shall approve its use after determining that it includes adequate information about animal health agencies, regulatory requirements, administrative procedures, and animal disease issues in the new State, to prepare an accredited veterinarian from another State to perform accredited duties in the new State. The Veterinarian-in-Charge shall also give the State Animal Health Official of the new State an opportunity to review the contents of the orientation, and invite him or her to participate in developing orientation materials and conducting the orientation.
(b) An accredited veterinarian may not perform accredited duties in a State in which the accredited veterinarian is not licensed or legally able to practice veterinary medicine.
(c) An accredited veterinarian may not perform accredited duties in a State other than the one in which the veterinarian was initially accredited until the veterinarian receives written authorization from APHIS to perform accredited duties in the new State.
(Approved by the Office of Management and Budget under control numbers 0579–0032 and 0579–0297)

§ 161.3 Renewal of accreditation.

(a) Accredited veterinarians who wish to continue participating in the National Veterinary Accreditation Program must renew their accreditation every 3 years by completing an application for accreditation renewal and submitting it to APHIS. Newly accredited veterinarians must renew their accreditation within 3 years of completing the orientation program described in §161.1(e)(4) of this part, regardless of when their accreditation was granted. Other veterinarians must renew their accreditation within 3 years of the previous renewal.
(b) Accredited veterinarians who wish to renew their accreditation under Category I must complete 3 supplemental training units approved by APHIS by the end of their 3-year tenure as an accredited veterinarian. Accredited veterinarians who wish to renew their accreditation under Category II must complete 6 supplemental training units approved by APHIS by the end of their 3-year tenure as an accredited veterinarian. Accredited veterinarians who wish to change the category in which they are accredited, rather than renew accreditation in their current accreditation category, should follow the procedure in §161.1(f) of this part.
(c) Accredited veterinarians who do not complete the required training within 3 years as specified in paragraph (a) of this section will have their accredited status expire. Veterinarians

whose accreditation has expired will not be allowed to perform accredited duties until they receive notification of their reinstatement from APHIS. Veterinarians who perform duties that only accredited veterinarians are authorized to perform while their accredited status has expired will be subject to such criminal and civil penalties as are provided by the Animal Health Protection Act (7 U.S.C. 8301 *et seq*.) or other applicable Federal statutes or regulations. To be reinstated, the veterinarian must complete the necessary supplemental training units for the appropriate category and submit an application for renewal of veterinary accreditation to APHIS. A veterinarian who allows his or her accredited status to expire must have completed the required number of supplemental training units within 3 years of his or her application for renewal in order to be approved for renewal. Supplemental training units completed since the veterinarian's last renewal but more than 3 years before the veterinarian's application for renewal will not count towards fulfilling his or her training requirement.

(d) Veterinarians who are accredited as of February 1, 2010, may continue to perform accredited duties between February 1, 2010, and the date of their first renewal. APHIS will provide notice for 3 months to accredited veterinarians who are accredited as of February 1, 2010, to notify them that they must elect to participate in the NVAP as a Category I or Category II veterinarian. Veterinarians must elect to continue to participate within 3 months of the end of the notification period, or their accredited status will expire. When APHIS receives notice from an accredited veterinarian that he or she elects to participate, APHIS will notify the accredited veterinarian of his or her date for first renewal. The accredited veterinarian must then complete all the training requirements for renewal, as described in this section, by his or her first renewal date.

(Approved by the Office of Management and Budget under control number 0579–0297)

§ 161.4 Standards for accredited veterinarian duties.

An accredited veterinarian shall perform the functions of an accredited veterinarian only in a State in which the accredited veterinarian is licensed or legally able to practice veterinary medicine. An accredited veterinarian shall perform the functions of an accredited veterinarian and carry out all responsibilities under applicable Federal programs and cooperative programs subject to direction provided by the Veterinarian-in-Charge and in accordance with any regulations and instructions issued to the accredited veterinarian by the Veterinarian-in-Charge, and shall observe the following specific standards:

(a) An accredited veterinarian shall not issue a certificate, form, record or report which reflects the results of any inspection, test, vaccination or treatment performed by him or her with respect to any animal, other than those in regular health maintenance programs, unless he or she has personally inspected that animal within 10 days prior to issuance. Inspections under this paragraph must be conducted in a location that allows the accredited veterinarian sufficient space to observe the animal in such a manner as to detect abnormalities related to areas such as, but not limited to, locomotion, body excretion, respiration, and skin conditions. An accredited veterinarian shall examine such an animal showing abnormalities, in order to determine whether or not there is clinical evidence compatible with the presence or absence of a communicable disease.

(1) Following the first two inspections of a herd or flock as part of a regular health maintenance program, an accredited veterinarian shall not issue a certificate, form, record or report which reflects the results of any inspection, test, vaccination or treatment performed by him or her with respect to any animal in that program, unless he or she has personally inspected that animal within 10 days prior to issuance.

(2) Following the third and subsequent inspections of a herd or flock in a regular health

maintenance program, an accredited veterinarian shall not issue a certificate, form, record or report which reflects the results of any inspection, test, vaccination or treatment performed by him or her with respect to any animal in that program, unless he or she has personally inspected that animal within 30 days prior to issuance.
(b) An accredited veterinarian shall not issue, or allow to be used, any certificate, form, record or report, until, and unless, it has been accurately and fully completed, clearly identifying the animals to which it applies, and showing the dates and results of any inspection, test, vaccination, or treatment the accredited veterinarian has conducted, except as provided in paragraph (c) of this section, and the dates of issuance and expiration of the document. Certificates, forms, records, and reports shall be valid for 30 days following the date of inspection of the animal identified on the document, except that origin health certificates may be valid for a longer period of time as provided in §91.3(a) of this chapter. The accredited veterinarian must distribute copies of certificates, forms, records, and reports according to instructions issued to him or her by the Veterinarian-in-Charge.
(c) An accredited veterinarian shall not issue any certificate, form, record, or report which reflects the results of any inspection, test, vaccination, or treatment performed by another accredited veterinarian, unless:
(1) The signing accredited veterinarian has exercised reasonable care, that is, a standard of care that a reasonably prudent person would use under the circumstances in the course of performing professional duties, to determine that the certificate, form, or report is accurate;
(2) The certificate, form, or report indicates that the inspection, test, vaccination, or treatment was performed by the other accredited veterinarian; identifies the other accredited veterinarian by name; and includes the date and the place where such inspection, test, or vaccination was performed; and,
(3) For a certificate, form, or report indicating results of a laboratory test, the signing accredited veterinarian shall keep a copy of the certificate, form, or report and shall attach to it either a copy of the test results issued by the laboratory, or a written record (including date and participants' names) of a conversation between the signing accredited veterinarian and the laboratory confirming the test results.
(d) An accredited veterinarian shall perform official tests, inspections, treatments, and vaccinations and shall submit specimens to designated laboratories in accordance with Federal and State regulations and instructions issued to the accredited veterinarian by the Veterinarianin-Charge.
(e) An accredited veterinarian shall identify or be physically present to supervise the identification of reactor animals by tagging or such other method as may be prescribed in instructions issued to him or her by the Veterinarian-in-Charge or by a State Animal Health Official through the Veterinarian-in-Charge.
(f) An accredited veterinarian shall immediately report to the Veterinarian-in-Charge and the State Animal Health Official all diagnosed or suspected cases of a communicable animal disease for which a APHIS has a control or eradication program in 9 CFR chapter I, and all diagnosed or suspected cases of any animal disease not known to exist in the United States as provided by §71.3(b) of this chapter.
(g) While performing accredited work, an accredited veterinarian shall take such measures of sanitation as are necessary to prevent the spread of communicable diseases of animals by the accredited veterinarian.
(h) An accredited veterinarian shall keep himself or herself currently informed on Federal and

State regulations that are provided to him or her by the Veterinarian-in-Charge, or by a State official through the Veterinarian-in-Charge, governing the movement of animals, and on procedures applicable to disease control and eradication programs, including emergency programs.

(i) An accredited veterinarian shall not use or dispense in any manner, any pharmaceutical, chemical, vaccine or serum, or other biological product authorized for use under any Federal regulation or cooperative disease eradication program, in contravention of applicable Federal or State statutes, regulations, and policies.

(j) An accredited veterinarian shall be responsible for the security and proper use of all official certificates, forms, records, and reports; tags, bands, or other identification devices; and approved digital signature capabilities used in his or her work as an accredited veterinarian and shall take reasonable care to prevent the misuse thereof. An accredited veterinarian shall immediately report to the Veterinarian-in-Charge the loss, theft, or deliberate or accidental misuse of any such certificate, form, record, or report; tag, band, or other identification device; or approved digital signature capability.

(k) An accredited veterinarian may issue an origin health certificate for export use pursuant to part 91 of this chapter without including test results from a laboratory, if the Veterinarian-in-Charge has determined that such action is necessary to save time in order to meet an exportation schedule and agrees to add the test results to the certificate at a later time. In such cases, the accredited veterinarian shall state on a removable attachment to the certificate that such test results are to be added by the Veterinarian-in-Charge.

§ 161.5 Program certifications.

A program certification recognized by the Administrator may be granted to an accredited veterinarian in Category II upon completion of an additional orientation or training program approved by APHIS that focuses on the specific area for which the veterinarian is seeking program certification. Veterinarians accredited under Category I are not eligible to earn program certifications. Accredited veterinarians may elect to participate in a program certification on a voluntary basis. Participants in these program certifications will be qualified in a particular area or specialty. In addition to Category II training, qualification for a program certification will include additional specialized training, which may include periodic training updates. For certain program certifications, the cost of orientation or training may be borne by the accredited veterinarian. An accredited veterinarian granted a program certification will be referred to as a qualified accredited veterinarian or QAV. A QAV will be authorized to perform those accredited duties related to the program certification he or she has earned; accredited veterinarians not granted program certifications will not be permitted to perform accredited duties related to that particular program certification. If a QAV allows his or her Category II accreditation to expire, the QAV's program certification expires as well, and the QAV must be qualified for the program certification again in accordance with this section.

§ 161.6 Suspension or revocation of veterinary accreditation and reaccreditation; criminal and civil penalties.

(a) The Administrator is authorized to suspend for a given period of time, or to revoke, the accreditation of a veterinarian when he or she determines that the accredited veterinarian has not complied with the “Standards for Accredited Veterinarian Duties” as set forth in §161.4 of this part or with any of the other regulations in this subchapter, or is otherwise found to be unfit to be accredited. Veterinarians who perform duties that only accredited veterinarians are authorized to perform while their accredited status is suspended or revoked will be subject to such criminal

and civil penalties as are provided by the Animal Health Protection Act (7U.S.C.8301 *et seq* .) or other applicable Federal statutes or regulations. Performing accredited duties while accreditation status is suspended or revoked will be considered grounds for the Administrator to suspend accreditation, revoke accreditation, or deny application for reaccreditation, as circumstances warrant. A veterinarian whose accreditation has been suspended or revoked or whose application for reaccreditation has been denied may request a hearing under §162.13 to challenge the Administrator's decision.

(b) *Reinstatement after suspension* . A veterinarian whose accreditation has been suspended for less than 6 months (other than a summary suspension that is changed to a revocation as a result of an adjudicatory proceeding) will be automatically reinstated as an accredited veterinarian upon completion of the suspension. A veterinarian whose accreditation has been suspended for 6 months or more must complete a reaccreditation orientation program in accordance with paragraph (c)(2)(ii) of this section before accreditation will be reinstated.

(c) *Reaccreditation after revocation* . A veterinarian whose accreditation has been revoked may apply for reaccreditation by completing an application for reaccreditation and submitting it to the Veterinarian-in-Charge of the State or area where he or she wishes to perform accredited work. The application may be submitted when the revocation has been in effect for not less than 2 years, unless the revocation order specifies that the veterinarian whose accreditation has been revoked may not submit an application for reaccreditation until the revocation has been in effect for a period of time longer than 2 years.

(1) Completed applications for reaccreditation received by a Veterinarian-in-Charge shall be reviewed by the State Animal Health Official for the State in which the veterinarian wishes to perform accredited duties. Within 14 days after receiving an application, the State Animal Health Official shall either endorse the application or send a written statement to the Administrator explaining why it was not endorsed; but if the State Animal Health Official fails to take one of these actions within 14 days, the Veterinarian-in-Charge shall proceed to review the application. The Administrator will review the application and the written statement, if any, and determine whether the applicant meets the requirements for reaccreditation contained in this part.

(2) Once a veterinarian whose accreditation has been revoked has correctly applied for reaccreditation in accordance with the requirements of paragraph (c) of this section, the Administrator will determine whether to reaccredit or to deny reaccreditation. This determination will be based on whether the veterinarian has fulfilled the following conditions:

(i) The veterinarian is licensed or legally able to practice veterinary medicine in the State in which the veterinarian wishes to perform accredited duties;

(ii) The veterinarian has completed a reaccreditation orientation program approved by the Veterinarian-in-Charge for the State in which the veterinarian wishes to perform accredited work, and upon completion of the orientation, has signed a written statement listing the date and place of orientation, the subjects covered in the orientation, and any written materials provided to the veterinarian at the orientation. The Veterinarian-in-Charge shall also give the State Animal Health Official an opportunity to review the contents of the reaccreditation orientation, and invite him or her to participate in developing orientation materials and conducting the orientation. The orientation program shall include topics addressing the subject areas which led to loss of accreditation for the applicant, and subject areas which have changed since the applicant lost accreditation; and

(iii) The professional integrity and reputation of the applicant support a conclusion that the applicant will faithfully fulfill the duties of an accredited veterinarian in the future. In making

this conclusion, the Administrator shall review all available information about the applicant, including recommendations of the State Animal Health Official, and shall consider:
(A) Any criminal conviction records indicating that the applicant may lack the honesty, integrity, and reliability to appropriately and effectively perform accredited duties and to uphold the integrity of the National Veterinary Accreditation Program;
(B) Official records of the applicant's actions participating in Federal, State, or local veterinary programs;
(C) Judicial determinations in civil litigation adversely reflecting on the honesty, integrity, and reliability of the applicant; and
(D) Any other evidence reflecting on the honesty, professional integrity, reliability and reputation of the applicant.
(3)(i) If a veterinarian is reaccredited under paragraph (c)(2) of this section, the veterinarian may begin performing accredited duties again upon receipt of notification from the Administrator that he or she is eligible to do so.
(ii) If an application for reaccreditation is denied under paragraph (c)(2) of this section, the veterinarian may apply for reaccreditation in accordance with this paragraph (c) not less than 2 years after the application was last denied, unless the decision specifies that the veterinarian may not reapply for reaccreditation until a period of time longer than 2 years has passed.
(d) Accreditation shall be automatically terminated when an accredited veterinarian is not licensed or legally able to practice veterinary medicine in at least one State.
(e) Accreditation shall be automatically revoked when an accredited veterinarian is convicted of a crime in either State or Federal court, if such conviction is based on the performance or nonperformance of any act required of the veterinarian in his or her capacity as an accredited veterinarian.
(f) Any accredited veterinarian who knowingly issues or signs a false, incorrect, or mislabeled animal health or inspection certificate, blood sample, official brucellosis vaccination certificate, or official tuberculin test certificate in accordance with this chapter, shall be subject to such civil penalties and such criminal liabilities as are provided by 7 U.S.C. 8313, 18 U.S.C. 1001, or other applicable Federal statutes. Such action may be in addition to, or in lieu of, suspension or revocation of accredited veterinarian status in accordance with this section.
(g) *Notice of warning* . In lieu of suspension or revocation, the Administrator is authorized to issue a written notice of warning to an accredited veterinarian when the Administrator determines a notice of warning will be adequate to attain compliance with the Standards for Accredited Veterinarian Duties in §161.4 of this part.

§ 161.7 Activities performed by non-accredited veterinarians.

(a) Full-time Federal (including military) and State employed veterinarians are authorized to perform functions specified in subchapters B, C, and D of this chapter, pursuant to delegation of authority by the Administrator or cooperative agreements, without specific accreditation under the provisions of this subchapter.
(b) Except as provided by paragraph (a) of this section, anyone who performs accredited veterinarian duties that he or she is not authorized to perform will be subject to such criminal and civil penalties as are provided by the Animal Health Protection Act (7 U.S.C. 8301 *et seq* .) or other applicable Federal statutes or regulations. Performing accredited duties without having been accredited will be considered grounds for the Administrator to deny an application for accreditation.

PART 162—RULES OF PRACTICE GOVERNING REVOCATION OR SUSPENSION

OF VETERINARIANS' ACCREDITATION

Subpart A—General

§ 162.1 Scope and applicability of rules of practice.

The Uniform Rules of Practice for the Department of Agriculture promulgated in subpart H of part 1, subtitle A, title 7, Code of Federal Regulations, are the Rules of Practice applicable to adjudicatory, administrative proceedings for the revocation or suspension of accreditation of veterinarians (9 CFR parts 160 and 161). In addition, the Supplemental Rules of Practice set forth in subpart B of this part shall be applicable to such proceedings.

Subpart B—Supplemental Rules of Practice

§ 162.10 Summary suspension or revocation of accreditation of veterinarians.

In any situation where the Administrator has reason to believe that any veterinarian accredited under the provisions of parts 160 and 161 of this subchapter has knowingly violated the Animal Health Protection Act (7 U.S.C. 8301 *et seq* .), the Administrator may summarily suspend the accreditation of such veterinarian pending final determination in either a suspension or revocation proceeding, effective upon oral or written notification, whichever is earlier. In the event of oral notification, a written confirmation thereof shall be given to such veterinarian as promptly as circumstances permit.

§ 162.11 Notification.

The Veterinarian-in-Charge shall notify an accredited veterinarian when there is reason to believe that the accredited veterinarian has not complied with the "Standards for Accredited Veterinarian Duties" as contained in §161.4 of this subchapter. The notification shall be in writing, with a copy to the State Animal Health Official, and shall include a statement of the basis for the belief that the accredited veterinarian has failed to comply with the Standards and shall notify the accredited veterinarian if the Veterinarian-in-Charge has arranged to hold an informal conference to discuss the matter.

§ 162.12 Informal conference.

(a) The Veterinarian-in-Charge, in consultation with the State Animal Health Official and the accredited veterinarian, shall designate the time and place for the holding of an informal conference to review the matter, unless the Veterinarian-in-Charge determines that an informal conference is inappropriate. An informal conference is inappropriate only if the Veterinarian-in-Charge decides to dismiss the case based on available facts, or if civil or criminal charges based on the actions or inactions believed to be in violation of the "Standards for Accredited Veterinarian Duties" contained in §161.4 of this subchapter are pending against the accredited veterinarian. An informal conference shall include the Veterinarian-in-Charge or his or her representative, the accredited veterinarian, and any other persons the Veterinarian-in-Charge requests to attend due to their involvement in or knowledge of the possible violation. The State Animal Health Official will be invited to attend each informal conference held regarding activities in his or her State.

(b) If prior to, during, or after the informal conference, but prior to the issuance of a formal complaint, the accredited veterinarian is found not to have violated the regulations, the Veterinarian-in-Charge will issue a letter dismissing the case, and provide a copy of the letter to the accredited veterinarian and to the State Animal Health Official. Prior to, during, or after the informal conference, the Veterinarian-in-Charge may issue a letter identifying actions of the accredited veterinarian that were minor violations of the Standards, instructing the accredited veterinarian in proper procedures, and admonishing the accredited veterinarian to use greater care in performing these procedures in the future.

(c) Prior to, during, or at the conclusion of the informal conference, the Veterinarian-in-Charge may issue a written warning to the accredited veterinarian without further procedure after determining that a warning with appropriate instructions will be adequate to attain compliance with the Standards.
(d) If prior to, during, or at the conclusion of, the informal conference, the accredited veterinarian consents, in writing, to the issuance of an order revoking or suspending his or her accreditation for a specified period of time, in lieu of further procedure, the Veterinarian-in-Charge may issue such a consent order without further procedure.

§ 162.13 Formal complaint.

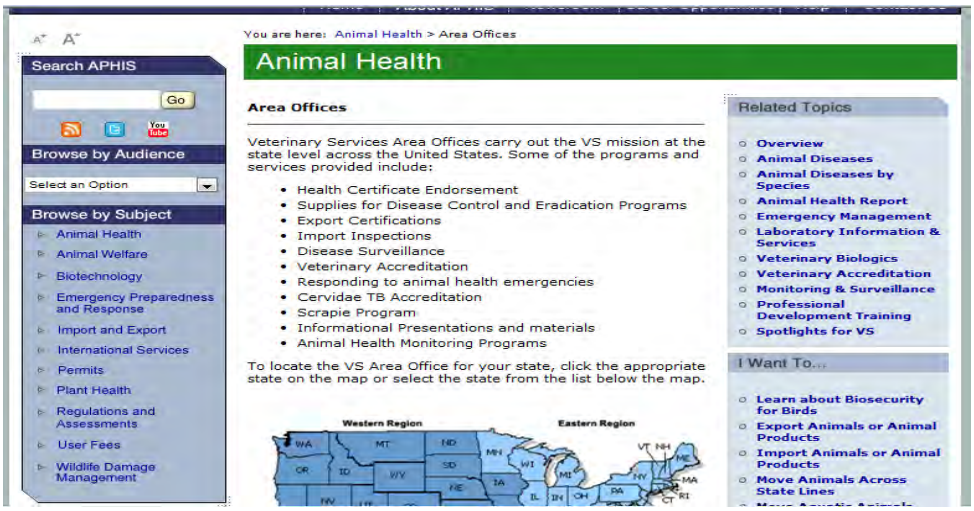
If a consent order has not been issued, or if, after an informal conference, the Veterinarian-in-Charge has not issued a letter of dismissal or letter of warning to the accredited veterinarian, a formal complaint may be issued by the Administrator in accordance with §1.135 of the Uniform Rules of Practice (7 CFR 1.135).

Appendix B – APHIS – VS Area Offices

To provide you with the most recent information on the Area Veterinarians in Charge (AVIC) of a given state, this appendix has been revised to link you to the APHIS-VS web site where the most current information is available. To find an APHIS-VS Area Office AVIC click on this hot link:

http://www.aphis.usda.gov/animal_health/area_offices/

Step 1) Clicking on the above hot link will take you to this web page



Step 2) Click on either the state itself or the state name below the map to have the AVIC information displayed. In this example, Texas was clicked on.

Area Office	
	Texas
	Area Veterinarian-in-Charge USDA, APHIS, VS 903 San Jacinto Blvd., Room 220 Austin, Texas 78701-2450 Phone: (512) 383-2400 Fax: (512) 916-5197 Click here for more information.

Step 3) By clicking on the '**here**' icon the following web page with additional information about the Texas Area Office will be displayed.

Texas Area Office

Veterinary Services

Dr. Kevin Varner

APHIS Area Veterinarian-In-Charge

903 San Jacinto Blvd., Room 220
Austin, Texas 78701-2450

Phone: (512) 383-2400
FAX: (512) 916-5197

Email: VSTX@aphis.usda.gov

Get Directions to our office on the Internet

Core Orientation Held in Texas
Date: April 11, 2011
Location: Texas A&M University, College Station, TX
Contact: Lynette Victor
Phone: 512-383-2413

Step 4) If you click on the Email icon, your e-mail should open up with the Texas Area Office e-mail address in the 'to' box. Or you could call or fax the office or get map directions by clicking on the 'Get Directions" hot link. Please note there is some variances in what information is displayed on the area office web page from state to state.

Appendix C – State Animal Health Officials

To provide you with the most recent information on the State Animal Health Officials (SAHO), most commonly State Veterinarians, in a given state, this appendix has been revised to link you to the United States Animal Health Association (USAHA) web site where the most current SAHO information is available. To find a State Animal Health Official, click on this hot link:

http://www.usaha.org/

When you click on the above hot link, it will take you to the USAHA home web site

Step 1) Click on the above hot link which will take you to the USAHA home page:

Step 2) Click on the **REFERENCE** tab, the 5th tab from the left, which will take you to this web page.

Step 3) Hover over the Reference tab and a drop down menu will appear. Click on the **Federal and State Animal Health** option and the below web page will appear.

Step 4) Click on the **Download a listing of the fifty state animal health officials** hot link and the following PDF will appear. Scroll down the alphabetical listing until you find the state you are looking for.

STATE ANIMAL HEALTH OFFICIALS
2010 ALABAMA

Name: **Dr. Anthony G. Frazier**
Title: State Veterinarian
Agency: Animal Industry Division
Department: Alabama Department of Agriculture and Industries
Mailing Address: P.O. Box 3336, Montgomery, AL 36109-0336

Appendix D – Forms and Instructions for Completing Them

VS Form 1–27: Permit for Movement of Animals

1. Complete name and mailing address. If animals are being reconsigned from a market has purchased the animals and is, in fact, the owner/shipper.

2. Complete name and address of the owner at the time the physical condition was diagnosed. May be the same as item 1.

3. Self-explanatory.

4. This should be the complete name and address of a slaughter establishment or a quarantined feedlot. If the permit is for eggs, this will be the address of the breaking establishment.

5. Self-explanatory.

6. Self-explanatory.

7. Write in "other" if for eggs.

8. State disease suspected or diagnosed.

9. Exposed, suspect, infected.

10. Infected, exposed, suspect, etc. Use "N/A" if animals are a combined lot being reconsigned from a market.

11. Status of the geographic area as it applies to the disease involved (e.g., quarantine, free, etc.).

12. If poultry products, write in the number of cases, boxes, crates, etc.

13. Self-explanatory.

14. Self-explanatory.

15. Record the seal number used. Seals are not used on poultry trucks but are used on eggs whose movement is restricted because of Salmonella enteritidis.

16. Mark appropriate box. Check with your State Veterinarian or Area Veterinarian-in-Charge if in doubt.

17. a. Record all permanent identification present.

b. Use breed codes.

c. M = male, F = female, N = neutered.

If the animal has a current permit number, list the identification number from the original permit that authorized movement to the current location. List any nonpermanent identification (e.g., sale tags, backtags, bangle tags, etc.). Identify poultry by strain. Identify poultry products by type, (e.g., eggs, manure, etc.).

18. This is a legal document; do not forget to sign it.

19. Self-explanatory.

20. Self-explanatory.

21. Allow a reasonable amount of time for the movement to take place.

22. Allow a reasonable amount of time for the movement to take place.

23. If the owner or shipper is not available, the trucker may sign. Never allow a member of the market organization to sign unless the market is the buyer or shipper.

24. Mark appropriate box. If the trucker signed, write in "trucker."

25. Self-explanatory.

26–29. Self-explanatory. For slaughter animals and poultry, if the inspector cannot certify as to receipt and slaughter from his or her personal knowledge, and if plant management satisfies the inspector that the animals or poultry have, in fact, been handled properly, the inspector can insert above item 28 the phrase "Plant Records" or "Plant Management" and then sign item 33 and date item 34.

For animals shipped to a quarantined feedlot, whenever the inspector cannot verify arrival through direct inspection and count, he or she can insert above item 28 the phrase "animals on hand," or "quarantined feedlot records," etc., and then sign item 33 and date item 34.

For swine shipped from slaughter market to slaughter market, the inspector must verify arrival of all permitted swine by direct inspection and count.

30. Must be completed if the "yes" box in item 16 is marked.

31. Must be completed if the "yes" box in item 16 is marked.

After completion of the form, items 1–25, the white copy accompanies the shipment. If the shipment is for slaughter, the green copy is addressed to the USDA–Food Safety and Inspection Service (FSIS) or State inspector at the designated slaughtering establishment. The FSIS or the State inspector will then complete the form and return it to the State of origin. If the shipment is poultry products, the green copy goes to the USDA–Agricultural Marketing Service inspector located at the destination. The pink copy goes to the APHIS Veterinary Services area office in the State of destination. The yellow copy goes to the APHIS Veterinary Services area office in the State of origin. The issuing official keeps the goldenrod copy.

This permit identifies restricted animals moved for quarantine/slaughter purposes. The information is needed to identify disease infected/exposed animals that are moved to specific locations in order to control and prevent spread of the disease (9 CFR 71 through 85). See reverse side for additional information.

U.S. DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
VETERINARY SERVICES

PERMIT FOR MOVEMENT OF RESTRICTED ANIMALS

USE A SEPARATE FORM FOR EACH SPECIES

FORM APPROVED
OMB NO. 0579-0051

No. E

5. STATE WHERE ISSUED

1. NAME AND ADDRESS OF SHIPPER OR CONSIGNOR *(Include Zip Code)*

6. MOVEMENT TO BE ☐ INTERSTATE ☐ INTRASTATE

7. MOVEMENT FOR ☐ QUARANTINE ☐ SLAUGHTER

8. DISEASE

9. STATUS OF ANIMALS

No. Reactor	No. Exposed	No. Other *(Specify)*

2. CONSIGNEE *(Destination Name and Address, include Zip Code)*

10. STATUS OF HERD OF ORIGIN

11. STATUS OF AREA OF ORIGIN

3. MOVED FROM *(Name and Location of Premise if other than item 1 above)*

12. NO. ANIMALS IN THIS SHIPMENT

13. SPECIES *(One only)*

4. NAME AND ADDRESS OF OWNER AT TIME CONDITION DIAGNOSED

14. TRANSPORTATION VEHICLE LICENSE NO. OR OTHER IFENTIFICATION NO.

15. SEAL NO.

16. VEHICLE REQUIRED TO BE CLEANED AND DISINFECTED AT DESTINATION
☐ YES ☐ NO

VALID ONLY FOR ABOVE DESTINATION

(If Yes, Items 32, 33, and 34 are Applicable)

17. ANIMALS TO BE MOVED

COMPLETE EAR TAG NO.	BREED	SEX	DISEASE BRAND	OTHER IDENTIFICATION *(Complete No.)*	COMPLETE EAR TAG NO.	BREED	SEX	DISEASE BRAND	OTHER IDENTIFICATION *(Complete No.)*

SAMPLE

I certify that I have inspected the animals described on this permit and find them eligible to move in accordance with the requirements of State and Federal regulations.

18. SIGNATURE OF INSPECTOR	19. DATE ISSUED	20. TIME ISSUED	VOID AFTER	
			21. DATE	22. TIME

WARNING TO OWNER, SHIPPER AND TRUCKER - LIVESTOCK MUST BE DELIVERED TO CONSIGNEE WITHOUT DIVERSION

I understand that it is a violation of Federal law to move the animals identified herein interstate except in accordance with the provisions of applicable Federal Regulations. I also understand that such animals must comply with existing state laws and regulations governing movement of livestock and poultry. I have arranged or will arrange for a copy of this permit to accompany the interstate shipment and be delivered with the above described animals.

23. SIGNATURE OF OWNER OF SHIPPER	24. TITLE	25. DATE SIGNED
	☐ OWNER ☐ SHIPPER	

I certify that the animals described on this permit were received and slaughterred/quarantined in accrodance with the requirements of the State and Federal regulations on the date indicated in item 29.

26. PLACE ANIMALS RECEIVED	27. DATE ANIMALS ARRIVED	28. NO. ANIMALS RECEIVED	29. DATE SLAUGHTERED/QUARANTINED

30. DATE AND TIME SEALS BROKE	31. AUTHORIZED SIGNATURE	32. DATE CLEANED AND DISINFECTED *(if required)*	33. SIGNATURE OF INSPECTOR	34. DATE SIGNED

VS FORM 1-27
(JUN 89)

Previous edition may be used.

PART 1 - TO ACCOMPANY SHIPMENT

CONTINUATION SHEET FOR (VS FORM 1-27)
PERMIT FOR MOVEMENT OF ANIMALS
USE A SEPARATE FORM FOR EACH SPECIES

USDA-APHIS | PAGE | OF

1. NAME AND ADDRESS OF SHIPPER OR CONSIGNOR *(Include Zip Code)*

2. CONSIGNEE *(Destination Name and Address, include Zip Code)*

OF VS FORM 1-27
No.

3. MOVED FROM *(Name and Location of Premise if other than item 1)*

4. NAME AND ADDRESS OF OWNER AT TIME CONDITION DIAGNOSED

VALID ONLY FOR ABOVE DESTINATION

ANIMALS TO BE MOVED

EAR TAG NO. A	BREED B	SEX C	DISEASE BRAND D	OTHER IDENTIFICATION *(Complete No.)* E	EAR TAG NO. A	BREED B	SEX C	DISEASE BRAND D	OTHER IDENTIFICATION *(Complete No.)* E

SAMPLE

VS FORM 1-27A
(SEP 91)

Attach to VS Form 1-27

TO ACCOMPANY SHIPMENT

General Information on Appendix D

All pre-numbered APHIS and VS forms are accountable documents and failure to provide security for the forms is a violation of your accredited status. These forms may be ordered from your APHIS-VS Area Office.

If you have any questions about completing these forms, you can contact your APHIS-VS Area Office at: **http://www.aphis.usda.gov/animal_health/area_offices/**

The new VS Form 10-4 Specimen Submission form for NVSL is not pre-numbered and my be completed on line, printed out, and included with your specimens sent to NVSL The electronic form is available at:
http://www.aphis.usda.gov/animal_health/lab_info_services/forms_publications.shtml

Veterinary Services is developing an electronic system where many of these forms as well as some of the international Official Health Certificates (OHC) of foreign destination countries will be available on line. The VS form 10-11, Equine Infectious Anemia Laboratory Test, is already available in the VSPS. The form can be completed on line in VSPS and transmitted electronically to the laboratories that have linked up with VSPS. The electronic EIA test record has the capability to upload digital photos of the horse.

VS Form 4 – 24: Brucellosis Vaccination Record

STATE, COUNTY, AND CODE
Enter the complete State and county name. If appropriate, use the county code assigned by your SAHO or AVIC.

HERD NUMBER, OWNER NUMBER
Herd and owner numbers are assigned by the State. You may or may not have them when you complete the form.

KIND OF HERD
Mark the appropriate box.

REMARKS, WBBS
[Leave blank.]

HERD OWNER
Enter the complete name and mailing address of the owner.

CV, AV
Mark whether this is a calfhood vaccination or adult vaccination.

LOCATION
Use the appropriate codes for these items. Check with your SAHO or AVIC.

VACCINE USED
Enter the name of the biological supply company producing the vaccine used.

EXPIRATION DATE
Enter the expiration date of the vaccine.

SERIAL NUMBER
Enter the serial number of the vaccine.

DOSAGE
Mark the appropriate box.

VACC. TATTOO
Enter the vaccination tattoo used. See "Brucellosis Eradication: Uniform Methods and Rules" to determine the proper tattoo.

CERTIFICATION FOR PAYMENT
Mark the appropriate box.

SIGNATURE
This is a legal document; be sure to sign it.

DATE OF VACCINATION
Enter the date that the vaccination was performed.

AGREE. CODE
Enter your agreement code provided by the State.

CERTIFICATION OF OWNER OR WITNESS
Have the owner or a witness sign and date the form.

CERTIFICATION FOR RE-ESTABLISHING VACCINATION STATUS
Mark this block if calfhood vaccinates are being retagged. Sign and date. Retagging is always done at the owner's expense.

IDENTIFICATION NUMBER
Enter the calfhood vaccination tag number from the eartag that you are applying. Note any other permanent identification numbers, if present.

AGE (MO.) List the age in months.

BREED Use the breed codes listed in table 3.

SEX Enter F.

P/B-GRADE Mark this block if the animals are purebred (registered) or grade calves.

TATTOO List the present tattoo if retagging.

ALL VACCINATIONS MUST BE PROMPTLY REPORTED

COOPERATIVE STATE-FEDERAL BRUCELLOSIS ERADICATION PROGRAM **G**

BRUCELLOSIS VACCINATION RECORD

U.S. DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
VETERINARY SERVICES

SAMPLE

STATE		COUNTY	CODE

HERD NUMBER	HERD OWNER LAST	FIRST	INITIAL	VACCINE USED	EXPIRATION DATE

OWNER NUMBER	ROUTE-STREET-ROAD	SERIAL NUMBER	DOSAGE ☐ FULL ☐ REDUCED	VACC. TATTOO

KIND OF HERD ☐ DAIRY ☐ BEEF ☐ MIXED	POST OFFICE	STATE	ZIP CODE

REMARKS	WBBS	CV ☐	AV ☐	RGE	TWP	SEC	DISTRICT	FARM UNIT

NO.	IDENTIFICATION NUMBER	AGE (MO./YR.)	BREED	SEX	P/B–GRADE	* TATTOO
1						
2						
3						
4						
5						
6						
7						
8						

CERTIFICATION FOR PAYMENT

☐ FEDERAL EMPLOYEE ☐ FEE BASIS *(Federal)* ☐ STATE COUNTY ☐ PRIVATE *(Owner's Expense)*

I CERTIFY THAT: (1) I have vaccinated with Strain 19, tattooed and eartagged or otherwise properly identified all animals listed hereon as prescribed by the Brucellosis UM[illegible], and recorded all information as prescribed by State regulations; (2) when payment is claimed at program expense in accordance with agreement number below no payment has been or will be received from any other source.

Signature	Date of Vaccination	Agree. Code

CERTIFICATION OF OWNER OR WITNESS

I CERTIFY THAT the animals listed hereon were vaccinated and identified for the above named owner.

Signature	Date

CERTIFICATION FOR RE-ESTABLISHING VACCINATION STATUS

* ☐ indicate tattoo of animals previously vaccinated in appropriate column,

I CERTIFY THAT I have personally examined the animal(s) noted hereon, and have read the official tattoo(s) and have retagged them as shown.

Signature	Date

VS FORM 4-24 (AUG 83) *Previous edition may be used.*

PART 1 - OFFICE

VS Form 4 – 26: Brucellosis Vaccination Record

STATE, COUNTY, AND CODE
Enter the complete State and county name. If appropriate, use the county code assigned by your SAHO or AVIC.

HERD NUMBER, OWNER NUMBER
Herd and owner numbers are assigned by the State. You may or may not have them when you complete the form.

KIND OF HERD
Mark the appropriate box.

REMARKS, WBBS
[Leave blank.]

HERD OWNER
Enter the complete name and mailing address of the owner.

CV, AV
Mark whether this is a calfhood vaccination or adult vaccination.

LOCATION
Use the appropriate codes for these items. Check with your SAHO or AVIC.

VACCINE USED
Enter the name of the biological supply company producing the vaccine used.

EXPIRATION DATE
Enter the expiration date of the vaccine.

SERIAL NUMBER
Enter the serial number of the vaccine.

DOSAGE
Mark the appropriate box.

VACC. TATTOO
Enter the vaccination tattoo used. See "Brucellosis Eradication: Uniform Methods and Rules" to determine the proper tattoo.

CERTIFICATION FOR PAYMENT
Mark the appropriate box.

SIGNATURE
This is a legal document; be sure to sign it.

DATE OF VACCINATION
Enter the date that the vaccination was performed.

AGREE. CODE
Enter your agreement code provided by the State.

CERTIFICATION OF OWNER OR WITNESS
Have the owner or a witness sign and date the form.

CERTIFICATION FOR RE-ESTABLISHING VACCINATION STATUS
Mark this block if calfhood vaccinates are being retagged. Sign and date. Retagging is always done at the owner's expense.

IDENTIFICATION NUMBER
Enter the calfhood vaccination tag number from the eartag that you are applying. Note any other permanent identification numbers, if present.

AGE (MO.) List the age in months.

BREED Use the breed codes listed in table 3.

SEX Enter F.

P/B-GRADE Mark this block if the animals are purebred (registered) or grade calves.

TATTOO List the present tattoo if retagging.

STATE

COUNTY | CODE

ALL VACCINATIONS MUST BE PROMPTLY REPORTED

COOPERATIVE STATE-FEDERAL BRUCELLOSIS ERADICATION PROGRAM **W**

BRUCELLOSIS VACCINATION RECORD

HERD NUMBER	HERD OWNER LAST FIRST INITIAL	VACCINE USED	EXPIRATION DATE
OWNER NUMBER	ROUTE STREET ROAD	SERIAL NUMBER	DOSAGE ☐ Full ☐ Reduced / VACC TATTOO
KIND OF HERD ☐ DAIRY ☐ BEEF ☐ MIXED	POST OFFICE STATE ZIP CODE	CERTIFICATION FOR PAYMENT ☐ FEDERAL EMPLOYEE ☐ FEE BASIS (Federal) ☐ STATE COUNTY ☐ PRIVATE (Owner's Expense)	

REMARKS	WBBS	CV ☐	AV ☐	RGE	TWP	SEC	DISTRICT	FARM UNIT

I CERTIFY THAT: (1) I have vaccinated with Strain 19, tattooed and eartagged or otherwise properly identified all animals listed hereon as prescribed by the Brucellosis UM & R, and recorded all information as prescribed by State regulations, (2) when payment is claimed at program expense in accordance with agreement number below no payment has been or will be received from any other source.

Signature	Date of Vaccination	Agree. Code

CERTIFICATION OF OWNER OR WITNESS

I CERTIFY THAT the animals listed hereon were vaccinated and identified for the above named owner.

Signature	Date

CERTIFICATION FOR RE-ESTABLISHING VACCINATION STATUS

* ☐ indicate tattoo of animals previously vaccinated in appropriate column.

I CERTIFY THAT I have personally examined the animal(s) noted hereon, and have read the official tattoo(s) and have retagged them as shown.

Signature	Date

No.	IDENTIFICATION NUMBER	AGE Yr.(s)	AGE Mo.(s)	BREED	SEX	P/B GRADE	* TATTOO
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

No.	IDENTIFICATION NUMBER	AGE Yr.(s)	AGE Mo.(s)	BREED	SEX	P/B GRADE	* TATTOO
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							

SAMPLE

VS FORM 4-26 (JUL 83) *Previous edition may be used.*

PART 1-OFFICE

VS Form 4 – 33: Brucellosis Test Record

STATE, COUNTY
Enter the location of the herd; it may not be the same as the owner's residence.
CODE
Enter the correct county code if instructed by your SAHO or AVIC. If you do not know the correct code, leave the block blank.
HERD OWNER
Enter last name, first name, middle initial, and complete mailing address. Be consistent among tests for the same owner — for example, James Jones v. J. Jones v. Jones Bros.
LOCATION CODES
Enter the location codes if appropriate and/or known. Check with the SAHO or AVIC for specific information.
REASON FOR TEST
Indicate whether this is the initial test or a retest. If you check the retest block, enter that test date in the **PREVIOUS TEST DATE** block. The vet code is assigned by your State. This information may be preprinted on the form. Indicate the reason for the test (e.g., export). If none of the first 9 reasons apply, check item 10, Other, and briefly explain in the **REMARKS** block.
COMPLETE HERD TEST OF ALL ELIGIBLE ANIMALS
Check either Yes or No to indicate whether this test is a complete herd test (all eligible animals are being tested). Enter the number of eligible animals in the herd.
KIND OF HERD
Enter the type of herd-dairy, beef, or mixed, or swine, or other (e.g., caprine).
AGREE. CODE
Certification for payment may be fee-basis or private, depending on the State. Your agreement code is assigned by your SAHO or AVIC.
SIGNATURE
Sign the form and provide your address. Remember, this is a legal document; be sure to sign it. Provide the complete address, including ZIP Code. (The date should be the date the animal was bled.)
TUBE NO.
Follow instructions from the laboratory you use on how to number the tubes.
SIGNATURE
This is a legal document; be sure to sign it.
DATE OF VACCINATION
Enter the date that the vaccination was performed.
AGREE. CODE
Enter your agreement code provided by the State.
CERTIFICATION OF OWNER OR WITNESS
Have the owner or a witness sign and date the form.
CERTIFICATION FOR RE-ESTABLISHING VACCINATION STATUS
Mark this block if calfhood vaccinates are being retagged. Sign and date. Retagging is always done at the owner's expense.
IDENTIFICATION NUMBER
Enter the vaccination tag number from the eartag that you are applying. Note any other permanent identification numbers, if present.
AGE (MO.) List the age in months.
BREED Use the breed codes listed in table 3.
SEX Enter F.
P/B-GRADE Mark this block if the animals are purebred (registered) or grade calves.
TATTOO List the present tattoo if retagging.

Using VS Form 4–33 for Swine with Pseudorabies

Check first with the State office in the State where the swine are located to be sure that the State does not have its own official pseudorabies test form. If there is an official State form, use it. Otherwise, alter VS Form 4–33 as follows:

1. At the top of the form, delete **BRUCELLOSIS** and print **PSEUDORABIES**. Also print **PSEUDORABIES** in the **REMARKS** block.

2. When testing for the Cooperative State–Federal– Industry Pseudorabies Eradication Program, if you check block **6**, **8**, or **9**, you must also do the following:

- If block **6** is checked, enter one of the following in the **REMARKS** block:

  Feeder-pig monitoring
  Qualified-negative (QN) herd test
  QN-vaccinated herd test
  Retest of infected herds
  Retest of imported swine
  Gene-altered vaccinated herd test
  Other

- If block **8** is checked, enter one of the following in the **REMARKS** block:

  Breeding herd
  Grower/finisher herd
  Farrow to finish

- If block **9** is checked, enter one of the following in the **REMARKS** block:

  Tracing movements of infected herds
  Tracing source of additions to infected herds
  Circle-testing around infected herds
  [Explanation for any other epidemiologic reason]

3. Permanent identification includes official eartag, tattoo, and ear notching.

4. If the herd that you are testing is vaccinated, use the **REMARKS** block to list the type and brand name of vaccine used.

ALL INCOMPLETE RECORDS WILL BE RETURNED FOR COMPLETION

STATE

COUNTY | CODE

COOPERATIVE STATE-FEDERAL BRUCELLOSIS ERADICATION PROGRAM **L**

BRUCELLOSIS TEST RECORD

HERD NUMBER | HERD OWNER LAST FIRST INITIAL | PREVIOUS TEST DATE | VET CODE | TOTAL | REA | SUS

OWNER NUMBER | ROUTE-STREET-ROAD

TEST | PROG. | WBBS | POST OFFICE STATE ZIP CODE

CERTIFICATION FOR PAYMENT

☐ FEDERAL EMPLOYEE ☐ FEE BASIS *(Federal)* ☐ STATE COUNTY ☐ PRIVATE *(Owner's Expense)*

I certify:

That I have drawn blood samples from each animal identified below and have correctly listed each tube number with complete corresponding identification number, all numbers and letters of all eartags have been listed, cattle with existing official eartags have not been retagged, and when payment is claimed at program expense in accordance with agreement number below, no payment has been or will be received from any other source.

REASON FOR TEST ☐ INITIAL ☐ RETEST

Slaughter Rea	1	Hd. Cert./ Validation	6
Lvst. Mkt. Rea	2	Post Move Quar. & Test	7
Susp. Ring Test	3	Area Test	8
Diagnostic	4	Epidemiology	9
Pvt. Sale	5	Other *(Specify below)*	10

REMARKS

DATE LISTED

RGE | TWP | SEC | DISTRICT | FARM UNIT

COMPLETE HERD TEST OF ALL ELIGIBLE ANIMALS ☐ YES ☐ NO NO. IN HERD

KIND OF HERD ☐ DAIRY ☐ BEEF ☐ MIXED ☐ SWINE ☐ OTHER *(Specify below):*

LABORATORY | PLACE | DATE

BY

SUMMARY

NEGATIVE	
SUSPECT	
REACTOR	
TOTAL	

SIGNATURE | AGREE. CODE

ROUTE, STREET, ROAD | DATE BLED

POST OFFICE STATE ZIP CODE | FIELD TEST DONE BY:

REACTORS TAGGED AND BRANDED DATE: SIGNATURE | AGREE. CODE

TUBE NO.	2	RECORD ALL IDENTIFICATION NUMBER(S)	VACC TATTOO	AGE	BREED	SEX	FLD T	LABORATORY RESULTS BAPA/RST	CARD	STT/SPT	RIV	CF	TEST Interp.	REMARKS AND ADDITIONAL INFORMATION	REACTOR TAG NUMBER
		1													
		2													
		3													
		4													
		5													
		6													
		7													
		8													
		9													
		10													
		11													
		12													
		13													
		14													
		15													

SAMPLE

RT - Retag **AB** - Aborter
NA - Natural Addition
PA - Purchased Addition

Record ALL Eartag(s) and Tattoo(s)

Record ALL Legible Characters

FIELD TEST CODE
N - Negative
P - Positive

TEST INTERPRETATION
N - Negative Classified by:
S - Suspect .....
R - Reactor Date Classified:

TEST AUTHORIZATION EXPIRES

VS FORM 4-33
(FEB 92)

Replaces edition date of (4/81), which may be used.

PART 1 – OFFICE

U.S. DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
VETERINARY SERVICES

BRUCELLOSIS TEST RECORD - CONTINUATION SHEET

Complete all entries on VS Form 4-33 before using this form.

HERD NUMBER	PAGE NO.

HERD OWNER - LAST	FIRST	INITIAL	DATE BLED	VETERINARIAN

TUBE NO.	2	RECORD ALL IDENTIFICATION NUMBERS	VACC TATTOO	AGE	BREED	SEX	FLD T	LABORATORY RESULTS						TEST IN-TERP.	REMARKS AND ADDITIONAL INFORMATION	REACTOR TAG NUMBER
								BAPA / RST	CARD	STT / SPT	RIV	CF				

SAMPLE

VS FORM 4-33A
(FEB 92)

Replaces edition date of (4/81), which may be used.

PART 1-OFFICE

VS Form 4–54: Brucellosis Test Record: Market Cattle Testing Program

STATE

Enter the name of the State.

SAMPLES DRAWN AT

Mark the appropriate box.

ESTAB. NUMBER

Enter the unique number assigned to each establishment (slaughterhouse or livestock market). You may obtain these numbers from the Veterinary Services area office in your State.

NAME AND ADDRESS OF PLACE WHERE SAMPLES WERE DRAWN

Enter the complete name and mailing address.

CERTIFICATION

Sign the form and enter the date that the samples were drawn.

TESTING LABORATORY

If the blood samples are being sent to a laboratory, leave this block blank; the laboratory will fill it in. If you are collecting the samples at a market and conducting the tests yourself, fill in the information. Enter the name of the laboratory and the address where you are actually conducting the tests.

TEST RESULTS

If the samples are sent to a laboratory, leave this area blank. If you are conducting the tests, enter the results.

TUBE NO.

Self-explanatory.

SALES TAG OR BRAND

Self-explanatory.

BACK TAG NUMBER

Self-explanatory.

EARTAG NUMBER

Self-explanatory.

VACC. TATTOO

List the vaccination tattoo, if present.

AGE

Enter the age in years or months. Indicate which you are using by placing an M or Y after the number.

BREED

Enter the proper breed code.

SEX

Enter M or F.

COUNTY

List the county of origin of the cattle. If unknown, leave blank.

HERD OWNER'S NAME

Self-explanatory.

ADDRESS

Enter the address of the herd owner.

U. S. DEPARTMENT OF AGRICULTURE
ANIMAL & PLANT HEALTH INSPECTION SERVICE
VETERINARY SERVICES

BRUCELLOSIS TEST RECORD
MARKET CATTLE TESTING PROGRAM

STATE

SAMPLES DRAWN AT *("X" One)*
☐ LIVESTOCK MARKETS ☐ SLAUGHTER ESTAB.

ESTAB. NUMBER

NAME AND ADDRESS OF PLACE WHERE SAMPLES WERE DRAWN

CERTIFICATION

I CERTIFY THAT I HAVE COLLECTED AND CORRECTLY IDENTIFIED EACH BLOOD SAMPLE LISTED BELOW.

SIGNATURE

DATE

TESTING LABORATORY

LABORATORY

ADDRESS

DATE

SIGNATURE

TEST RESULTS

NEG.	
SUS.	
REA.	
TOTAL	

TUBE NO.	SALES TAG OR BRAND	BACK TAG NUMBER	EAR TAG NUMBER	VACC. TAT-TOO	AGE	BREED	SEX	LABORATORY RESULTS						COUNTY	HERD OWNER'S NAME	ADDRESS
								RAPID STA	CARD	STT / SPT	RIV	CF	TEST IN-TERP.			
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																
16																
17																
18																
19																
20																

SAMPLE

VS FORM 4-54
(JUL 81)

Previous editions are obsolete.

PART 1 – OFFICE COPY

VS Form 6–22: Tuberculosis Test Record

STATE Enter the State name.

COUNTY

Use Federal Information Processing Standards county code. A list for your State can be obtained from the Veterinary Services area office. If you cannot obtain the county code, leave the box blank. Enter the township or section code if applicable.

HERD OWNER

Enter the complete name and mailing address of the herd owner.

HERD NUMBER

The herd number is assigned by your State. If this is a retest, you should know the number. If this is an initial test, you may not know the number.

LESION, TEST, D-B, and U blocks [Leave blank.]

TOWNSHIP OR DISTRICT

Fill in names of county, township, or district, section, and farm number, as applicable. (Some States have official farm numbers. If this is true in your State, the numbers can be obtained from the Veterinary Services area office in your State.)

REASON FOR TEST

Mark the appropriate box. If you mark OTHER, state the reason.

PREVIOUS TEST DATE

Complete this block only if this is a retest. The Vet Code is assigned by your State.

COMPLETE HERD TEST OF ALL ELIGIBLE ANIMALS

Mark yes or no. Provide the total number of animals in the herd.

KIND OF HERD Mark the appropriate box.

METHOD OF TEST Mark the appropriate box.

SUMMARY

Complete this block after testing. Fill in the number of animals in each category.

CERTIFICATION FOR PAYMENT

Mark the appropriate box.

SIGNATURE, AGREE. CODE

This is a legal document; be sure to sign it. Your agreement code is assigned by your State.

INJECTION, OBSERVATION

List the date and time that the injection was made and the date and time that the test was read (**OBSERVATION**).

REACTORS TAGGED AND BRANDED, AGREE. CODE

Enter the signature and agreement code of the veterinarian tagging and branding any reactors. This person may be different from the one filling out the rest of the form. Include the date of tagging and branding.

ANIMAL CODE

Enter one of the codes listed at the bottom of the column for all appropri≠ate animals.

IDENTIFICATION NUMBER

Record permanent identification, e.g., metal eartags and tattoos. If more than one is present, record them all. If none is present, apply metal eartag and record that number.

AGE Record the age in years.

BREED

Use the two-digit breed codes listed in table 3.

SEX Enter M (male), F (female), or N (neuter).

RESULTS

Record the diameter of the indurated area in millimeters in the first col≠umn. Record the result of the test in the second column: N (negative) or S (suspect).

REACTOR TAG NUMBER

If reactors are present, record the reactor tag number applied.

DATE, OWNER'S SIGNATURE

Have the owner sign and date the form. Leave part 3 (third sheet of the form) with the owner.

THIS AUTHORIZATION TO TEST EXPIRES

Enter the date. It is determined by each State and may vary depending on the circumstances. Check with your State Veterinarian's office.

After completing the form, send parts 1, 2, and 5 to the State or Veterinary Services area office (check with your State), give part 3 to the owner, and keep part 4 for your records.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0579-0084. The time required to complete this information collection is estimated to average .3 hours per response, including the time for reviewing instructions, search existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

STATE

ALL INCOMPLETE RECORDS WILL BE RETURNED FOR COMPLETION

COOPERATIVE STATE - FEDERAL TUBERCULOSIS ERADICATION PROGRAM

TUBERCULOSIS TEST RECORD

FORM APPROVED
OMB NO. 0579-0084

F

COUNTY	TWP	SEC	HERD OWNER'S NAME - LAST	FIRST	MI	PREVIOUS TEST DATE	VET CODE	TOTAL	REA	SUS

HERD NUMBER	LESION	TEST	D-B	U	HERD OWNER'S COMPLETE ADDRESS

CERTIFICATION FOR PAYMENT
☐ State/Federal Expense ☐ Owner's Expense

DATE LISTED

I certify:
That this test was made and read by me on each of the cattle identified below on the dates and with the results as entered in appropriate spaces.
That when payment is claimed at program expense in accordance with agreement number below, no payment has been or will be received from any other source.

COUNTY	TOWNSHIP OR DISTRICT	SEC.	FARM NO.

REASON FOR TEST

AREA 1		RETEST 6	
HERD (RE) ACCREDIT 2		TRACING REG. KILL 7	
MILK ORDINANCE 3		TRACING REACTORS 8	
SALE-SHOW 4		TRACING EXPOSED 9	
IMPORTED 5		OTHER 10	

COMPLETE HERD TEST OF ALL ELIGIBLE ANIMALS
☐ YES ☐ NO _____ NO. ELIGIBLE ANIMALS IN HERD

KIND OF HERD
☐ DEER ☐ ELK
☐ CATTLE ☐ BISON ☐ _____ OTHER

METHOD OF TEST
☐ CAUDAL FOLD (CFT) ☐ SNG CERVICAL (CST) (Cervid)
☐ CERVICAL (CT) (Bovine) ☐ _____ OTHER

SUMMARY

NEGATIVE	
SUSPECT	
REACTOR	
TOTAL	

PRACTITIONER'S SIGNATURE		TELEPHONE NO
PRACTITIONER'S NAME *(Please print)*		AGREE CODE
INJECTION	DATE	HOUR
OBSERVATION	DATE	HOUR
REACTORS TAGGED AND BRANDED	SIGNATURE	AGREE CODE

1	IDENTIFICATION NUMBER	AGE	BREED	SEX	RESULTS SIZE	RESULTS NRS	REACTOR TAG NO.
	1						
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						
	11						
	12						
	13						
	14						
	15						

1	IDENTIFICATION NUMBER	AGE	BREED	SEX	RESULTS SIZE	RESULTS NRS	REACTOR TAG NO.
	16						
	17						
	18						
	19						
	20						
	21						
	22						
	23						
	24						
	25						
	26						
	27						
	28						
	29						
	30						

RT - Retag
NA - Natural Addition
PA - Purchased Addition

N - Negative
S - Suspect
R - Reactor

I hereby acknowledge receiving a copy of this record which I have examined and find correct.

DATE | OWNER'S SIGNATURE

THIS AUTHORIZATION TO TEST EXPIRES:

VS FORM 6-22 (FEB 99)

Previous editions are obsolete.

PART 1 – OFFICE

SAMPLE

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0579-0084. The time required to complete this information collection is estimated to average 1.5 hours per response, including the time for reviewing instructions, search existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

FORM APPROVED - OMB NO. 0579-0084

U.S. DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
VETERINARY SERVICES

TUBERCULOSIS INFECTED HERD

☐ BOVINE ☐ CERVINE ☐ _____ OTHER

INSTRUCTIONS: Prepare at the time of identification of reactors, and attach to VS Form 6-22, Tuberculosis Test Record.

NAME OF OWNER OF INFECTED HERD	FARM NO.	ADDRESS OF OWNER	OFFICE USE: HERD LESION CODE	OFFICE USE: LAB RESULTS

COUNTY	OWNER CLASS *(Check one)*		DATE TEST READ *(Month, day, year)*		
	1 FARMER	3 STOCKYARD			
	2 DEALER	4 SALES RING			

SECTION 1 - OTHER ANIMALS ON FARM (Inventroy; use continuation sheet if needed)

LIST SPECIES *(Specify e.g. swine, poultry, cervid, llama, antelope, etc.)*	CONTACT WITH REACTOR		NUMBER			NECOPSIED	
	YES	NO	ON THE FARM	TESTED	REACTED	NUMBER	NO. WITH TB

SECTION II - IDENTIFICATION AND HISTORY OF REACTORS FOUND ON THIS TEST

IDENTIFICATION TAG OR TATTOO	REACTOR TAG	AGE	BREED	SEX	ORIGIN OF REACTOR	DESCRIPTION *(Registration No., color, markings, etc.)*	LESION CODE	LAB RESULTS
					1 RAISED ON FARM; 2 ORIGIN UNKNOWN; 3 PURCHASED UNKNOWN SOURCE; 4 PURCHASED KNOWN SOURCE			

1 PURCHASE FROM	ADDRESS	OWNER CLASS *(Purchased from)*		DATE PURCHASED: MONTH	YEAR
		1 FARMER	3 STOCK-YARD		
		2 DEALER	4. SALES RING		

IDENTIFICATION TAG OR TATTOO	REACTOR TAG	AGE	BREED	SEX	ORIGIN OF REACTOR	DESCRIPTION *(Registration No., color, markings, etc.)*	LESION CODE	LAB RESULTS
					1 RAISED ON FARM; 2 ORIGIN UNKNOWN; 3 PURCHASED UNKNOWN SOURCE; 4 PURCHASED KNOWN SOURCE			

2 PURCHASE FROM	ADDRESS	OWNER CLASS *(Purchased from)*		DATE PURCHASED: MONTH	YEAR
		1 FARMER	3 STOCK-YARD		
		2 DEALER	4. SALES RING		

IDENTIFICATION TAG OR TATTOO	REACTOR TAG	AGE	BREED	SEX	ORIGIN OF REACTOR	DESCRIPTION *(Registration No., color, markings, etc.)*	LESION CODE	LAB RESULTS
					1 RAISED ON FARM; 2 ORIGIN UNKNOWN; 3 PURCHASED UNKNOWN SOURCE; 4 PURCHASED KNOWN SOURCE			

3 PURCHASE FROM	ADDRESS	OWNER CLASS *(Purchased from)*		DATE PURCHASED: MONTH	YEAR
		1 FARMER	3 STOCK-YARD		
		2 DEALER	4. SALES RING		

IDENTIFICATION TAG OR TATTOO	REACTOR TAG	AGE	BREED	SEX	ORIGIN OF REACTOR	DESCRIPTION *(Registration No., color, markings, etc.)*	LESION CODE	LAB RESULTS
					1 RAISED ON FARM; 2 ORIGIN UNKNOWN; 3 PURCHASED UNKNOWN SOURCE; 4 PURCHASED KNOWN SOURCE			

4 PURCHASE FROM	ADDRESS	OWNER CLASS *(Purchased from)*		DATE PURCHASED: MONTH	YEAR
		1 FARMER	3 STOCK-YARD		
		2 DEALER	4. SALES RING		

IDENTIFICATION TAG OR TATTOO	REACTOR TAG	AGE	BREED	SEX	ORIGIN OF REACTOR	DESCRIPTION *(Registration No., color, markings, etc.)*	LESION CODE	LAB RESULTS
					1 RAISED ON FARM; 2 ORIGIN UNKNOWN; 3 PURCHASED UNKNOWN SOURCE; 4 PURCHASED KNOWN SOURCE			

5 PURCHASE FROM	ADDRESS	OWNER CLASS *(Purchased from)*		DATE PURCHASED: MONTH	YEAR
		1 FARMER	3 STOCK-YARD		
		2 DEALER	4. SALES RING		

SAMPLE

VS FORM 6-22A (FEB 99) *(Previous editions are obsolete.)* *(Over)*

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0579-0084. The time required to complete this information collection is estimated to average .3 hours per response, including the time for reviewing instructions, search existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

U.S. DEPARTMENT OF AGRICULTURE ANIMAL AND PLANT HEALTH INSPECTION SERVICE VETERINARY SERVICES	TUBERCULOSIS TEST RECORD - CONTINUATION SHEET **Complete all entries on VS Form 6-22 before using this form.**	HERD NUMBER	PAGE NO.	FORM APPROVED OMB NO. 0579-0084

HERD OWNER'S NAME - LAST	FIRST	INITIAL	DATE READ	VETERINARIAN

1	IDENTIFICATION NUMBER	AGE	BREED	SEX	RESULTS		REACTOR TAG NO.	1	IDENTIFICATION NUMBER	AGE	BREED	SEX	RESULTS		REACTOR TAG NO.
					SIZE	NRS							SIZE	NRS	
	1								26						
	2								27						
	3								28						
	4								29						
	5								30						
	6								31						
	7								32						
	8								33						
	9								34						
	10								35						
	11														
	12								37						
	13								38						
	14								39						
	15								40						
	16								41						
	17								42						
	18								43						
	19								44						
	20								45						
	21								46						
	22								47						
	23								48						
	24								49						
	25								50						

SAMPLE

VS FORM 6-22B
(FEB 99)

(Previous editions are obsolete.)

PART 1 - OFFICE

VS FORM 10-4 INSTRUCTIONS

ALL information must be printed legibly or typed. Use a separate form for each species and owner. At the minimum, complete all fields designated in these instructions as required. Contact the Receiving Department of the laboratory to which you are sending specimens with specific documentation or shipping questions. If including more than one page, include the page number of total pages submitted (*e.g., 1 of 3*).

1. SUBMITTER CONTACT INFORMATION "REQUIRED"

Enter the submitter's business name/affiliation; the name of the individual submitter is optional if test results are returned to a general business fax, email, or mailing address. Enter a fax number or email address to which we can return test results. Multiple email addresses are permissible. Specify if there is a preferred method of report delivery; email will be used if no preference is stated. Provide a complete mailing address. If fax or email is not available, test reports can be mailed, but this will delay delivery of your results. Repeat submitters are encouraged to be consistent with the submitter contact information that they provide, as the NVSL keeps a master record. If the test report for an individual submission needs to be routed to a non-standard destination, include special instructions in Block 22, Additional Data.

2. NVSL SUBMITTER ID

For more efficient service, repeat submitters are encouraged to include their NVSL Submitter ID. If you do not know your ID, contact the NVSL at (515) 337-7514.

3. OWNER INFORMATION "REQUIRED"

Enter the complete name of the animal owner, the city and the two-letter abbreviation of the State in which the owner resides. Ensure the animal owner is identified here and not the property manager or veterinarian. For wildlife, check the box to indicate there is no owner.

4. LOCATION OF THE ANIMALS "REQUIRED"

Include National Animal Identification System (NAIS) premises ID if available. Also, specify the county, parish or other designated location of the animals and the two-letter State abbreviation.

5. PAYMENT METHOD "REQUIRED FOR BILLABLE CASES"

Check the appropriate payment method. If payment is by user account or credit card, enter the account number. Enter the expiration month and year when using a credit card. Refer to the User Fees/Payment Options and the Catalog of Services/Fees, both located at www.aphis.usda.gov/animal_health/lab_info_services/diagnos_tests.shtml, for specific test fees and a list of accepted credit cards. **DO NOT SEND CASH.**

6. HERD/FLOCK SIZE

Enter the total number of animals in the herd/flock.

7. NO. IN HERD/FLOCK AFFECTED

Enter the total number of animals in direct contact with suspect animal or showing clinical signs.

8. NO. IN HERD/FLOCK DEAD
Enter the total number of animals from this herd/flock that are dead.

9. EXAMINATIONS REQUESTED "REQUIRED"
For disease programs, it is necessary only to enter the program name (*e.g., CWD, Scrapie, or BSE*). If the test is not for a disease program, specify the
disease and the desired test.

10. COLLECTED BY
Enter the complete name of the person collecting the specimen(*s*).

11. DATE COLLECTED
Enter the date on which specimens were collected. Use the format DD/MM/YYYY.

12. AUTHORIZED BY
Enter the name of the person authorizing the submission of this sample. Normally, this is the Area Veterinarian in Charge (*AVIC*) in your State. Authorization is assumed for regulatory veterinarians making routine program specimen submissions. See
http://www.aphis.usda.gov/animal_health/area_offices/ to locate the AVIC in your local area.
If an exotic (*foreign*) disease is suspected, contact the AVIC and the Emergency Programs staff to obtain authorization to submit samples for FAD testing and an investigation control number that must be included with the submission. DO NOT ship any such specimens until approval is received and a control number is assigned. The receipt of an unauthorized shipment of specimens containing exotic disease agents can cause substantial disruption of work at the laboratory and result in possible fines for the submitter.

13. PURPOSE OF SUBMISSION "REQUIRED"
Definitions of Diagnostic Case Categories are as follows:

- Interstate Movement – Tests conducted for the purpose of qualifying live animals or poultry for interstate movement.
- Export – Tests conducted for the purpose of qualifying animals or poultry, including wild animals and birds, or animal or poultry products for export from the U.S. to a foreign country.
- Pre-Import – Tests conducted for the purpose of qualifying animals or poultry, including wild animals and birds, or animal or poultry products for import into the U.S. Select this purpose when the animals or products have not yet been moved into the U.S.
- Import – Tests conducted for the same purpose as pre-import except that the animals or products are currently located at a U.S. import center.
- FAD/EP Diagnostic – Tests conducted for the purpose of diagnosing or confirming a foreign disease, or for the eradication of a foreign disease that has gained entrance into the U.S. If a foreign animal disease is suspected, follow instructions in Block 12 for authorization to submit a FAD specimen.

- Surveillance – Tests conducted for monitoring for a specific disease, for a specific insect or insect vector, or for analyzing specific products that are used in treating animals or poultry or for decontamination of animal poultry facilities.
- TB – Tests conducted for diagnosing Tuberculosis.
- General Diagnostic Case – Tests conducted for the purpose of diagnosing or confirming a domestic disease, and/or the analysis of environmental products that may be contributing to an existing disease condition. Use this purpose when the purposes listed above do not apply.
- Developmental/Research – Tests conducted for the purpose of supporting a developmental or research project conducted by staff or field personnel of VS or by other laboratories, institutions, or agencies.
- Reagent Evaluation – Tests conducted for the purpose of evaluating a reagent produced by other laboratories, institutions, or agencies.
- NVSL Intralab – Tests conducted for another laboratory of the NVSL.

14. COUNTRY OF ORIGIN/DESTINATION
For import or pre-import cases, enter the country in which the animals last resided. For export cases, enter the country to which the animals will be shipped.

15. REFERRAL NUMBER
This number is typically assigned by the submitter and is used for the submitter's own reference. In FAD cases, enter the investigation control number described in the instructions for Block 12.

16. PRESERVATION
Check all blocks that apply.

17. SPECIMENS SUBMITTED "REQUIRED"
Check all blocks that apply.

18. TOTAL NUMBER OF SPECIMENS SUBMITTED
Enter the total number of specimens submitted. Specimens in one container are counted as one sample. Please limit to <250 samples per submission.

19. SPECIES OR SOURCE "REQUIRED"
Check only one block. If specimens are from different species or sources, use a separate VS Form 10-4 for each source. Reminder: Enter the animal BREED in Block 21.

20. NUMBER OF ANIMALS SAMPLED
Enter the total number of animals sampled.

21. IDENTIFICATION "REQUIRED"

- Sample ID – Identify samples with consecutive numbers. **Ensure the sample identification number on this form matches the sample identification number placed on the specimen container.**
- Animal ID – Record the animal's national identification tag number adjacent to the appropriate sample number. If there is no national animal ID, record the most appropriate identification number (*or name*). NOTE: Laboratory results will be reported by animal identification number.
- Breed – Enter the animal breed (*e.g., Holstein, Angus*).
- Age – Indicate the approximate age in years (*y*), months (*m*), weeks (*w*), or days (*d*).
- Sex – Indicate the sex, male (*M*), or female (*F*), for each animal.

22. ADDITIONAL DATA

Enter all pertinent information about the animals and premises that can assist the lab in making a diagnosis.

- Provide detail on tissue specimens you are including (*e.g., lymph nodes, obex, brain*)
- Specify clinical signs (*e.g., weight loss, hair missing*)
- If meat is being retained pending specimen results, enter **RETAINED**
- Add related case submission numbers to assist in trace activities
- Include any information that did not fit into its designated space elsewhere on the form
- Include any special (*non-standard*) instructions for test report delivery

23. SIGNATURE OF SUBMITTER AND DATE

The individual submitting the specimen(*s*) must sign and date the form.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0579-0090, 0101, and 0212. The time required to complete this information collection is estimated to average .5 hours per response for 0579-0090, 1 hour per response for 0579-0101, and .333 hours per response for 0579-0212, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

OMB Approved
0579-0090, 0579-0101,
and 0579-0212

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
NATIONAL VETERINARY SERVICES LABORATORIES
P.O. BOX 844, 1920 DAYTON AVENUE, AMES, IA 50010
(515) 337-7514

SPECIMEN SUBMISSION

PAGE
OF

INSTRUCTIONS: Use a separate form for each species and each owner/broker. See "Instructions for Completing VS Form 10-4" for definitions.

1. SUBMITTER NAME (*including Business Name*)

2. NVSL SUBMITTER ID

3. NAME OF OWNER ☐ Check if wildlife (*no owner*)

EMAIL ADDRESS

OWNER CITY

STATE/COUNTRY

PHONE NO. FAX NO.

MAILING ADDRESS (*Street, City, State, ZIP Code*)

4. LOCATION OF ANIMALS

PREMISES ID

COUNTY

STATE/COUNTRY

5. PAYMENT METHOD

☐ USER FEE ACCOUNT NO.

☐ CHECK/MONEY ORDER (*Enclosed, payable to USDA in US dollars*)

☐ CREDIT CARD Number: Exp. Date:

6. HERD/FLOCK SIZE

7. NO. IN HERD/FLOCK AFFECTED

8. NO. IN HERD/FLOCK DEAD

9. EXAMINATIONS REQUESTED

10. COLLECTED BY

11. DATE COLLECTED

12. AUTHORIZED BY

13. PURPOSE OF SUBMISSION (*See instructions for definitions*)

☐ Interstate Movement ☐ Import ☐ TB ☐ Reagent Evaluation
☐ Export ☐ FAD/EP Diagnostic ☐ General Diagnostic ☐ NVSL Intralab
☐ Pre-Import ☐ Surveillance ☐ Developmental Research

14. COUNTRY OF ORIGIN/DESTINATION

15. REFERRAL NUMBER

16. PRESERVATION

☐ None ☐ Ice Pack ☐ Dry Ice ☐ Formalin ☐ Borax ☐ Alcohol ☐ Other (*Specify*)

17. SPECIMENS SUBMITTED (*"X" applicable item(s)*)

☐ Blood ☐ Feces ☐ Parasite ☐ Serum ☐ Tissue (*specify*) ☐ Whole Animal ☐ Other (*specify*)
☐ Culture ☐ Feed ☐ Plant ☐ Soil ☐ Urine ☐ Fetus
☐ Extract ☐ Milk ☐ Semen ☐ Swab (*specify*) ☐ Water ☐ DNA/RNA

18. TOTAL NUMBER OF SPECIMENS SUBMITTED

19. SPECIES OR SOURCE (*"X" ONLY one*)

☐ Cattle ☐ Goat ☐ Chicken ☐ Bison ☐ Fish ☐ Other (*specify*)
☐ Swine ☐ Horse ☐ Turkey ☐ Deer (*specify*) ☐ Environment
☐ Sheep ☐ Donkey ☐ Other bird (*specify*) ☐ Elk ☐ Reagent

20. NUMBER OF ANIMALS SAMPLED

21. IDENTIFICATION (*See instructions* <250 samples per form)

Sample ID	Animal ID	Breed	Age	Sex	**IDENTIFICATION** Sample ID	Animal ID	Breed	Age	Sex

22. ADDITIONAL DATA (*History, clinical signs, post mortem findings, remarks, tentative diagnosis, special instructions. Use additional sheets if necessary*).

23. SIGNATURE OF SUBMITTER AND DATE

X

NVSL USE ONLY

NVSL USE ONLY

CONDITION	PRIORITY	DISTRIBUTION	RECEIVED BY

VS FORM 10-4
AUG 2009

SAMPLE

VS Form 10-4 and 10-4A - Item 21 - Identification

Identify Samples with Consecutive Numbers - Record animal identification (number or name) adjacent to appropriate sample number. Laboratory results will be reported by sample identification number. You should therefore keep a copy of your submission so you will know the results for the appropriate animal.

Indicate approximate age in years (Y), months (M), weeks (W), or days (D), and indicate sex of each animal (M/F). When more than 10 samples are submitted, use VS Form 10-4A for samples # 11 on.

See example sample below.

Sample	Animal	Age	Sex	Sample	Animal	Age	Sex
1	12ABC0001	5Y	F	6	12ABC0006	10D	F
2	12ABC0002	2Y	M	7	12ABC0007	12M	F
3	12ABC0003	1Y	F	8	12ABC0008	8M	M
4	12ABC0004	6M	F	9	12ABC0009	2Y	F
5	12ABC0005	5W	M	10	12ABC0010	15M	M

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0579-0090, 0101, and 0212. The time required to complete this information collection is estimated to average .5 hours per response for 0579-0090 1 hour per response for 0579-0101, and .333 hours per response for 0579-0212, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

OMB Approved
0579-0090, 0579-0101, and 0579-0212

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
VETERINARY SERVICES
CONTINUATION SHEET FOR SPECIMEN SUBMISSION

INSTRUCTIONS: Use this form only as a continuation of information on VS Form 10-4 see "Instructions for completing VS Form 10-4".

PAGE: OF

3. NAME OF OWNER/BROKER ☐ Check if wildlife (*no owner*)

15. REFERRAL NUMBER

OWNER CITY | OWNER STATE/COUNTRY

21. IDENTIFICATION (*See instructions*)					IDENTIFICATION				
Sample ID	Animal ID	Breed	Age	Sex	Sample ID	Animal ID	Breed	Age	Sex

SAMPLE

See reverse for more OMB information.

FORM APPROVED - OMB NUMBER 0579 - 0127

U.S. DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

EQUINE INFECTIOUS ANEMIA LABORATORY TEST

(VS Memorandum 555.16)

SERIAL NO.	1. ACCESSION NUMBER	2. DATE BLOOD DRAWN
I		

Forms Without Adequate Descriptions Of The Horse and Complete Addresses Including Zip Codes, Counties, and Telephone Numbers Will Not Be Processed.

3. REASON FOR TESTING ☐ Show ☐ First Test ☐ Market ☐ Change of Ownership ☐ Retest ☐ Export

4. GEOGRAPHIC INFORMATION SYSTEMS (GIS) LAT: LONG:

5. VETERINARY LICENSE OR ACCREDITATION NO.

6. TEST TYPE ☐ ELISA ☐ AGID

7. NAME AND ADDRESS OR STABLE/MARKET *(Please print or type)*

Zip Code

Tel No. County

8. NAME AND ADDRESS OF OWNER *(Please print or type)*

Zip Code

Tel No. County

9. NAME AND ADDRESS OF VETERINARIAN *(Please print or type)*

Zip Code

Tel No. County

CERTIFICATION OF FEDERALLY ACCREDITED VETERINARIAN

I certify the specimen submitted with this Form was drawn by me from the horse described below on the date indicated above.

10. SIGNATURE OF FEDERALLY ACCREDITED VETERINARIAN	11. TYPE OR PRINT SIGNATURE NAME	12. SIGNATURE DATE

CERTIFICATION OF OWNER OR OWNER'S AGENT

I certify that I have examined this form and, to the best of my knowledge and belief, this form is true, correct and complete.

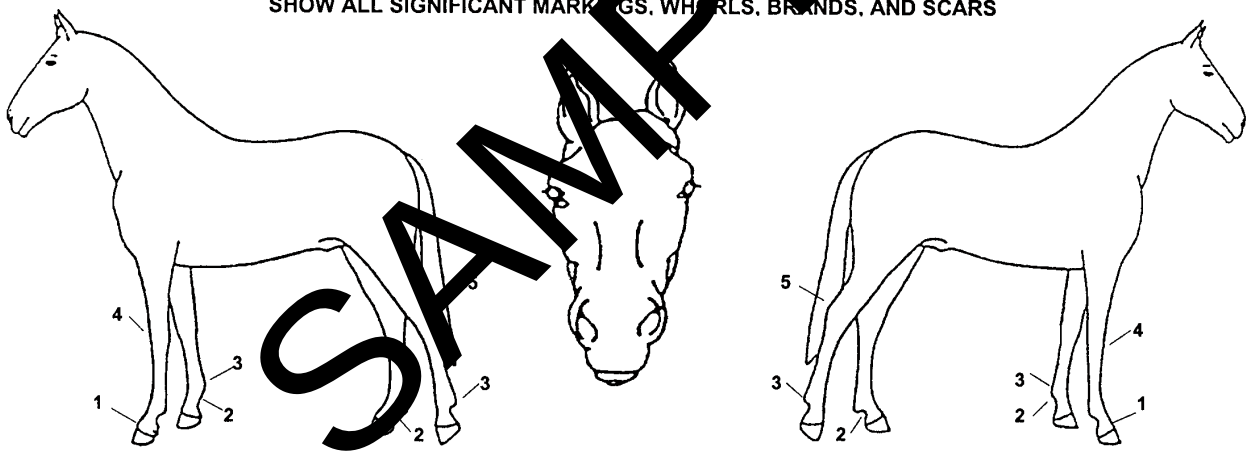
13. SIGNATURE OF OWNER OR OWNER'S AGENT	14. TYPE OR PRINT SIGNATURE NAME	15. SIGNATURE DATE

16. Tube No.	17. Official Tag No.	18. Tattoo/Brand	19. Name of Horse	20. Color	21. Breed	22. Electronic I.D. No.	23. Age or DOB	24. Sex

M - Male
F - Female
G - Gelding
N - Neuter

SHOW ALL SIGNIFICANT MARKINGS, WHORLS, BRANDS, AND SCARS

SAMPLE



1 - Coronet, 2 - Pastern, 3 - Fetlock, 4 - Knee, 5 - Hock

NARRATIVE DESCRIPTION AND REMARKS

25. HEAD	26. OTHER MARKS AND BRANDS
27. LEFT FORELIMB	28. RIGHT FORELIMB
29. LEFT HINDLIMB	30. RIGHT HINDLIMB

FOR LABORATORY USE ONLY

31. LABORATORY NAME/CITY/STATE	32. DATE RECEIVED	33. DATE REPORTED OUT	34. TEST RESULTS ☐ Negative ☐ Positive ☐ AGID ☐ ELISA
	36. SIGNATURE OF TECHNICIAN		35. REMARKS

Falsification of this form or knowingly using a falsified form is a criminal offense and may result in a fine of not more than $10,000 or imprisonment for not more than 5 years or both (U.S.C. Section 1001).

VS FORM 10-11 (MAY 2003)

VS Form 10 – 11: Equine Infectious Anemia Laboratory Test

ACCESSION NUMBER: The accession number is assigned by the laboratory. Leave blank.
DATE BLOOD DRAWN: Self-explanatory. If there are any time constraints on the test (as with exports), they are from the date that the sample is drawn rather than from the date the sample is submitted or the date the test result is reported.
REASON FOR TESTING: Mark the appropriate box.
GEOGRAPHIC INFORMATION SYSTEMS (GIS): Enter longitude and latitude if applicable.
VETERINARY LICENSE OR ACCREDITATION NO.: Self-explanatory.
TEST TYPE Mark the appropriate box.
NAME AND ADDRESS OF STABLE/MARKET: Enter the name, address, and telephone number of where the horse is stabled or the auction market is located.
NAME AND ADDRESS OF OWNER: Enter the name, complete mailing address, and telephone number of the owner.
NAME AND ADDRESS OF VETERINARIAN: Enter your name, complete mailing address, and telephone number.
CERTIFICATION OF FEDERALLY ACCREDITED VETERINARIAN [blocks 10–12]: Self-explanatory.
CERTIFICATION OF OWNER OR OWNER'S AGENT [blocks 13–15]: Self-explanatory. This section provides the veterinarian legal protection when misrepresentation of a horse is suspected; this is optional and is not required to complete the form.
DATA IDENTIFYING THE ANIMAL BEING TESTED [blocks 16–24]: Fill out as completely as possible. This area can cause the greatest number of problems, especially during interstate or international movement. The description MUST match the horse exactly; therefore, be precise when indicating the markings.
TUBE NUMBER Enter tube number if applicable.
OFFICIAL TAG NUMBER Enter tag number if applicable.
TATTOO/BRAND Enter tattoo or brand if applicable.
NAME OF HORSE Enter the horse's complete name.
COLOR Enter the color of the horse.
BREED Enter the breed of the horse.
ELECTRONIC I.D. NUMBER Enter the animal's electronic I.D. number if applicable.
AGE OR DOB Enter the horse's age in years or exact date of birth if available.
SEX To indicate the sex, use the codes listed on the form.
SHOW ALL SIGNIFICANT MARKINGS, WHORLS, BRANDS, AND SCARS: Fill in the silhouettes as needed to accurately describe the individual animal.
Narrative Description and Remarks [blocks 25–30]: Fill out as completely and precisely as possible. On the reverse side of the top [white] sheet in the carbon pack, you will find narrative descriptions and suggested language for these blocks.
FOR LABORATORY USE ONLY [blocks 31–35] Leave blank.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0579-0127. The time required to complete this information collection is estimated to average .416 hours per response, including the time for reviewing instructions, search existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

USE TYPEWRITER OR PRINT CLEARLY | **FORM APPROVED - OMB NO. 0579-0127**

U.S. DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

EQUINE INFECTIOUS ANEMIA SUPPLEMENTAL INVESTIGATION

(VS Memorandum 555.8)

1. CASE ID	2. LAB ACCESSION NO.
3. INVESTIGATOR'S NAME *(last, first, & middle initial)*	4. INVESTIGATOR'S AFFILIATION / 5. INVESTIGATION DATE
Area Code & Telephone No.	

6. OWNER'S LOCATION	7. NAME OF CONTACT PERSON *(e.g. stable manager)*
Name	Contact Name
Street Address	Street Address
City	City
State	State
Zip Code	Zip Code
County	County
Area Code & Telephone No.	Area Code & Telephone No.

8. FARM OR RANCH OPERATION

Type of Operation	Specialty	Acreage	No. of Buildings	Are There Other Adjacent Equine Operations
				☐ Yes ☐ No If Yes, Give Number

9. ANIMAL POPULATIONS

No. of Equids on Premises	No. of Equids having Possible Contact with Positive Case Animals	No. of Equids Sharing Pasture with Case Animal

Other Livestock Animals on Premises *(list total number by species)*

Cattle	Pigs	Sheep	Goats	Other

Are Equids present within 200 yards of this Premises ☐ Yes ☐ No If Yes, Give Number

10. HISTORY OF CASE ANIMAL

Name	Color	Registration Number
Breed	Age *(in months only)*	Sex *(male, female, gelding, neuter)*

Primary Use of animal *(Please check one box.)*
☐ Pleasure ☐ Show ☐ Work ☐ Other *(Please Describe)*

11. SOURCE OF ANIMAL

Was the Animal Born on Owner's Premises
☐ Yes ☐ No If No, Please Give Location Where Born

Was the Animal Purchased
☐ Yes ☐ No If Yes, Please Give the Seller's Name and the Address Where Animal Resided Prior to Purchase by Current Owner

How Long Has the Case Animal Been at the Current Site Prior to the EIA Positive Test *(in months only)*

12. ANIMAL HOUSING

Proportion of Time Case Animal Spent						Type of Stable	Maintenance		Is there Water Runoff in Vicinity of Stable
In stable (%)	☐ 0	☐ 25	☐ 50	☐ 75	☐ 100	☐ Open	☐ Poor	☐ Good	☐ Yes ☐ No
On pasture (%)	☐ 0	☐ 25	☐ 50	☐ 75	☐ 100	☐ Closed	☐ Moderate		

Size of Pasture Area Where Case Animal was Kept *(acres)*	Condition of Pasture Grasses	Water Sources on Pasture
	☐ .24" ☐ 12-24" ☐ 6-12" ☐ <6"	☐ None ☐ Well ☐ Irrigation ☐ Stock Pond ☐ Natural Pond ☐ Lake ☐ Stream ☐ Other

13. TRAVEL HISTORY

Dates of Off-premises Gathering of Equids Attended by Case Animal within Six Months of the EIA Positive Test	Types of Off-premises Gatherings of Equids Attended by the Case Animal within Six Months of the EIA Positive Test	Was the Case Animal within 200 Yards of Another Animal Known to be EIA-positive within Six Months of the EIA Positive Test
		☐ Yes ☐ No ☐ Not Certain IF YES, IDENTIFY PREMISE(S) AND ALL EXPOSED EQUIDS IN COMMENTS SECTION, PAGE 3.

SAMPLE

14. PREMISES INFECTION HISTORY

Date of the First Test Yielding a Positive Response	Date of the Last Negative EIA Test	Are Other Animals with EIA Positive Tests Present on the Premises	Are Other Animals with EIA Positive Tests Present on Neighboring Premises
		☐ Yes ☐ No	☐ Yes ☐ No

List Other Infections Diagnosed on Premises for All Animals within the Past Three Years

15. VACCINATION HISTORY

List Vaccines and Dates Administered to EIA Test-Positive Animal	List Vaccines and Dates Administered to Equids on Premises Other than Those Given to the EIA Test Positive Animal	Who Administered the Vaccines *(check all that apply)*
		☐ Owner ☐ Neighbor ☐ Farm Worker ☐ Veterinarian ☐ Other _____

16. INJECTABLE MEDICATION HISTORY

List Injectable Medication and Dates Administered to EIA Test Positive Animal	Who Injected the Medication
	☐ Owner ☐ Farm Worker ☐ Neighbor ☐ Veterinarian ☐ Other _____

17. VETERINARY MEDICAL ACTIVITIES

Other than EIA Testing, were the Services of a Veterinarian Used within the Past Six Months

☐ Yes ☐ No If Yes, Please Indicate the Dates and the Nature of the Services Performed _____

Were Any of These Services Performed on the EIA-positive Animal ☐ Yes ☐ No If yes, specify _____

18. FLY CONTROL

Have Fly Control Measures Been Applied within the Past Six Months ☐ Yes ☐ No

If yes, Were the Treatments

Repellents applied to animals ☐ Yes ☐ No

Repellents applied on or near animal housing ☐ Yes ☐ No

Insecticides applied generally to the pasture areas ☐ Yes ☐ No

Insecticides applied in or near animal housing areas ☐ Yes ☐ No

19. ENVIRONMENT SURROUNDING PREMISES

Describe the Area Surrounding the Premises in Ecological Terms

Marsh	Shrubland	Grassland
Swamp	Desert	Coniferous Forest
Upland Deciduous Forest	Flood Plain Deciduous Forest	Other

20. SKETCH OF THE PREMISES RELATIVE TO ROADS, WATER SOURCES, AND LANDMARKS

Site Sketch

North

West

East

South

(Show in sketch with an X mark where the coordinates were obtained.)

Latitude *(ddmmss)*	Longitude *(ddmmss)*	Datum Used, if Known

This Location is Front gate ☐ Stable ☐ Pasture ☐ Other *(please identify)* _____

SAMPLE

VS Form 10 – 12: Equine Infectious Anemia Supplemental Investigation

CASE ID: Self-explanatory.

LAB ACCESSION NO.: Self-explanatory.

INVESTIGATOR'S NAME: Investigator's name and telephone number.

INVESTIGATOR'S AFFILIATION: Self-explanatory.

INVESTIGATION DATE: Self-explanatory.

OWNER'S LOCATION: Enter complete name, address, and telephone number of the owner's location.

NAME OF CONTACT PERSON: Enter the complete name, address, and telephone number of the local contact person (e.g., the stable manager).

All remaining blocks on this form are self-explanatory.

VS Form 10–13: Owner/Shipper Certificate: Fitness to Travel to a Slaughter Facility

TIME HORSES LOADED ON CONVEYANCE

Enter the exact time horse(s) was/were loaded onto a truck, tractor, trailer, or semitrailers or any combination of these, propelled or drawn by mechanical power. Indicate time as AM, PM, or Military time.

DATE

The date you are completing this form (day, month, year).

VEHICLE LICENSE NO. AND DRIVER'S NAME

The vehicle license number is the tag number of the conveyance. Enter the name of the person who is actually driving the conveyance.

CONSIGNOR (OWNER/SHIPPER) NAME

Enter the name of any individual, partnership, corporation, or cooperative association that engages in commercial transportation of more than 20 equines per year to slaughtering facilities.

The three blocks immediately below refer to the street address, city/State/ZIP code, and phone number of the owner/shipper.

CITY AND STATE WHERE HORSES WERE LOADED ON CONVEYANCE

Enter the complete city and State where the horse(s) were loaded onto a truck, tractor, trailer, or semitrailer or any combination of these, propelled or drawn by mechanical power.

NAME OF AUCTION/MARKET

If the owner/shipper purchased any horse(s) from an auction or livestock market, provide the name of the facility.

CONSIGNOR (RECEIVER/DESTINATION) NAME

Enter the name of the person and/or slaughter plant that is taking receipt of the Horse(s) at its/their final destination.

The three blocks immediately below refer to the street address, city/State/ZIP code, and phone number of the person and/or slaughter plant receiving the animal(s).

CHECK THE BOX THAT INDICATES . . .

Check all the boxes beside statements that are true for *all* the horses traveling on this certificate.

Identification Section

Fill out as completely as possible. The description MUST match each horse exactly; therefore, be precise when recording information.

TAG PREFIX

This information is located on the top of the green equine backtag. The alpha prefix is USAA through ZZ. This prefix MUST be recorded as it is part of the backtag number.

Tag NO.

This information is located on the green equine backtag and is a 3- or 4-digit number. This number MUST be recorded.

COLOR DESCRIPTION

Of the six possible boxes, check the one that best describes each individual horse.

BREED/TYPE

Check the appropriate box. TB = thoroughbred; QT = quarter horse.

SEX

Check the appropriate box.

BRANDS Tattoos, etc.

Indicate any brands, tattoos, markings, or stars that would aid in identifying the individual horse(s).

REMARKS Include existing conditions

Fill in this section as completely as possible for each animal.

SIGNATURE

The driver of the conveyance signs here, certifying that the horses have been offered food and water and been allowed to rest as required under all applicable Federal laws.

SIGNATURE OF OWNER/SHIPPER

The owner/shipper signs here, certifying that all information on the form is true and correct.

CANADIAN FOOD INSPECTION AGENCY (CFIA)

Leave blank.

U.S. DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

OWNER/SHIPPER CERTIFICATE
FITNESS TO TRAVEL TO A SLAUGHTER FACILITY

(Please type or print in ink)

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0579-0160. The time required to complete this information collection is estimated to average 5 min. per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

FORM APPROVED OMB NO. 0579-0160

TIME HORSES LOADED ON CONVEYANCE	DATE	CITY AND STATE WHERE HORSES WERE LOADED ON CONVEYANCE
VEHICLE LICENSE NO. AND DRIVER'S NAME		NAME OF AUCTION/MARKET
CONSIGNOR (OWNER/SHIPPER) NAME		CONSIGNEE (RECEIVER/DESTINATION) NAME
STREET ADDRESS		STREET ADDRESS
CITY, STATE, ZIP CODE		CITY, STATE, ZIP CODE
AREA CODE & TELEPHONE NO.		AREA CODE & TELEPHONE NO.

CHECK THE BOX THAT INDICATES THE FOLLOWING IS TRUE FOR ALL THE HORSES ON THIS CERTIFICATE

☐ Pregnant mares are not likely to foal (give birth) during the trip. ☐ Horses are able to bear weight on all 4 limbs.

☐ Foals are older than 6 months of age. ☐ Horses are not blind in both eyes. ☐ Horses are able to walk unassisted.

	TAG PREFIX	Tag NO.	COLOR DESCRIPTION						BREED/TYPE					SEX			BRANDS Tattoos, etc.	REMARKS Include existing conditions
			Bay	Grey	Blk.	Pinto	Chestn	Other	TB	QT	Draft	Pony	Other			Geld		
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		

SAMPLE

HORSES HAVE HAD ACCESS TO FOOD, WATER, AND REST FOR A MINIMUM OF 6 CONSECUTIVE HOURS IMMEDIATELY BEFORE LOADING INTO CONVEYANCE.

SIGNATURE

CANADIAN FOOD INSPECTION AGENCY (CFIA)

EST.

DATE

TIME

I HEREBY AUTHORIZE THE CFIA TO DISCLOSE THIS DOCUMENT AND THE INFORMATION IN IT AS COMPLETED BY THE CFIA OR DGIF TO THE USDA. FALSIFICATION OF THIS FORM OR KNOWINGLY USING A FALSIFIED FORM IS A CRIMINAL OFFENSE AND MAY RESULT IN A FINE OF NOT MORE THAN $10,000 OR IMPRISONMENT FOR NOT MORE THAN 5 YEARS OR BOTH (18 U.S.C. SECTION 1001).

DIRECCION GENERAL DE INSPECCION EN FRONTERAS (DGIF)

EST.

DATE

TIME

SIGNATURE OF OWNER/SHIPPER(I certify that the information contained in this form is true and correct to the best of my knowledge.)

PART 1 - INSPECTOR

VS Form 10–13A: Owner/Shipper Certificate: Fitness to Travel to a Slaughter Facility (Continuation Sheet)

This form furnishes additional lines to be filled in only when the number of animals being shipped exceeds 15. Note that the owner/shipper must also sign and date this sheet at the bottom and indicate that it is page 2 of 2. If there are more than 45 horses in this shipment, additional Forms 10–13A may be used, but be sure to renumber the left-hand column, beginning with 46 to account for every animal individually.

U.S. DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

OWNER/SHIPPER CERTIFICATE FITNESS TO TRAVEL TO A SLAUGHTER FACILITY (CONTINUATION SHEET)

(Please type or print in ink)

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0579-0160. The time required to complete this information collection is estimated to average 5 min. per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

FORM APPROVED OMB NO. 0579-0160

	TAG PREFIX	Tag NO.	COLOR DESCRIPTION						BREED/TYPE					SEX			BRANDS Tattoos, etc.	REMARKS Include precondition
			Bay	Grey	Blk.	Pinto	Chestn	Other	TB	QT	Draft	Pony	Other	Mare	Stal	Geld		
16																		
17																		
18																		
19																		
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43																		
44																		
45																		

SAMPLE

I HEREBY AUTHORIZE THE CFIA TO DISCLOSE THIS DOCUMENT AND THE INFORMATION IN IT AS COMPLETED BY THE CFIA TO THE USDA. FALSIFICATION OF THIS FORM OR KNOWINGLY USING A FALSIFIED FORM IS A CRIMINAL OFFENSE AND MAY RESULT IN A FINE OF NOT MORE THAN $10,000 OR IMPRISONMENT FOR NOT MORE THAN 5 YEARS OR BOTH (18 U.S.C. SECTION 1001).

SIGNATURE OF OWNER/SHIPPER(I certify that the information contained in this form is true and correct to the best of my knowledge.)

VS Form 17–6: Certificate for Poultry or Hatching Eggs for Export

Note: This form must be typed.

DATE OF SHIPMENT

Self-explanatory.

NAME AND ADDRESS OF EXPORTER

Use the complete name and mailing address of the exporter. The Federal Information Processing Standards (FIPS) State codes may be found on the reverse side of the bottom sheet of the carbon-pack form.

NAME AND ADDRESS OF IMPORTER

Use the complete name and mailing address of the importer. Contact your Veterinary Services area office for information regarding the FIPS country codes.

QUANTITY/UNIT

List eggs by the dozen or hatched poultry by the individual bird.

VARIETY, STRAIN OR TRADE NAME

This information may be obtained from the exporter.

PRODUCT

Use a checkmark or "X" in the block that describes the item or animal.

SEX

Use a checkmark or "X" in the block that describes the animals in each of the Variety/Strain/Trade name groups. "Straight run" means that the sex is unknown (the birds have not been sexed).

TYPE (Intended use)

Determine whether the group of birds on a particular line are commercial production stock, multiplier breeding stock, or primary breeding stock. Then use a checkmark or "X" under the appropriate header to label the group as egg-type, meat-type, or "other."

NPIP APPROVAL

Fill in the appropriate number.

NPIP CLASSIFICATION – U.S.

Use a checkmark or "X" to describe the entire group of birds on a particular line.

TOTAL NUMBER OF UNITS CERTIFIED FOR EXPORT

Add either in dozens for eggs or individual numbers for hatched poultry.

CHECK APPROPRIATE CERTIFICATION BELOW

Check A or B.

REMARKS OR ADDITIONAL INFORMATION

Make additional remarks here if necessary.

TYPED NAME OF ISSUING VETERINARIAN

Self-explanatory.

SIGNATURE OF ISSUING VETERINARIAN

Sign the form only after it is completed.

STATUS

Check the block that best describes your status. This certificate is official only if it is signed by an accredited, State, or Fed≠eral veterinarian.

DATE ISSUED

Self-explanatory.

SIGNATURE OF ENDORSING FEDERAL VETERINARIAN

Check with the Federal Area Veterinarian-in-Charge to fulfill this requirement.

DATE ENDORSED

This block is completed only if the Federal Area Veterinarian-in-Charge signed in the preceding block.

This certificate is authorized by law (21 USC 112). While you are not required to respond, no health certificate can be validated unless the data required are provided.

See reverse side for additional OMB information.

FORM APPROVED OMB NO. 0579-0048

U.S. DEPARTMENT OF AGRICULTURE
Animal and Plant Health Inspection Service
Veterinary Services

CERTIFICATE FOR POULTRY OR HATCHING EGGS FOR EXPORT

1. DATE OF SHIPMENT

No. A

2. NAME & ADDRESS OF EXPORTER *(include ZIP code)*

3. NAME & ADDRESS OF IMPORTER

FIPS STATE CODE *(for USDA use only-see reverse)*

FIPS COUNTRY CODE *(for USDA use only)*

4. QUANTITY/UNIT *(Eggs-Dozen) (Poultry-Number)*	5. VARIETY, STRAIN OR TRADE NAME	6. PRODUCT (X or ✓)					7. SEX (X or ✓)			8. TYPE *(Intended use)* (X or ✓)									9. NPIP APPROVAL NO. / 10. NPIP CLASSIFICATION - U.S. (X or ✓)					
										Commercial Production Stock			Multiplier Breeding Stock			Primary Breeding Stock								
		Chicken Eggs	Turkey Eggs	Chicks	Poults	Other	Straight-run	Females	Males	Eggs-Type	Meat-Type	Other	Eggs-Type	Meat-Type	Other	Eggs-Type	Meat-Type	Other	Pullorum-Typhoid Clean	M. Gallisepticum Clean	M. Synoviae Clean	M. Meleagridis Clean	Sanitation Monitored	OTHER *(Specify)*
		1	2	3	4	5	1	2	3	1	2	3	4	5	6	7	8	9						
	11. TOTAL NO. OF UNITS CERTIFIED FOR EXPORT																							

12. CHECK APPROPRIATE CERTIFICATION BELOW *(A OR B)*

☐ **A. Certificate for Hatching Eggs and Newly Hatched Poultry, which have not been fed or watered.** This is to certify that: (1) the flock or flocks and the hatchery or hatcheries from which the above-described hatching eggs or newly hatched poultry originated were inspected by me or another accredited veterinarian within 30 days prior to shipment of above hatching eggs or setting eggs for above shipment of day old chicks and found free from evidence of communicable diseases and insofar as can be determined have not been exposed to Newcastle disease, fowl plague, fowl typhoid, ornithosis, and pullorum disease; (2) during the usual routine inspection of the flock or flocks there was no visible evidence of communicable diseases observed on the inspection dates listed in item 13 below; (3) the National Poultry Improvement Plan classification is as indicated in item 9 above; and (4) the prospective exporter has been advised that the hatching eggs must be clean and that the shipment must be made in new, clean containers.

☐ **B. Certificate for Poultry other than Newly Hatched Poultry Specified in Certificate A.** This is to certify that: (1) on this date all poultry shown in item 5 above, including all other poultry maintained in the flock, were inspected by me on the premises of origin within the past 30 days and found free from evidence of infectious and contagious diseases and insofar as can be determined have not been exposed to Newcastle disease, fowl plague, fowl typhoid, ornithosis, and pullorum disease; and (2) the prospective exporter has been advised that shipment must be made in new containers or clean containers which have been properly cleaned and disinfected.

13. REMARKS OR ADDITIONAL INFORMATION *(if required)*

SAMPLE

USDA VETERINARY SEAL *(if required)*

14. TYPED NAME OF ISSUING VETERINARIAN

15. SIGNATURE OF ISSUING VETERINARIAN

16. STATUS ☐ 1. State ☐ 2. Federal ☐ 3. Accredited

17. DATE ISSUED Mo Da Yr

18. SIGNATURE OF ENDORSING FEDERAL VETERINARIAN *(if required)*

19. DATE ENDORSED Mo Da Yr

VS FORM 17-6 (SEPT 95) Previous edition is obsolete.

TO ACCOMPANY SHIPMENT

VS Form 17 – 140: United States Origin Health Certificate General Information and Navigation Hints

Begin by filling out the Consignor [shipper] and Consignee [receiver] information in blocks **1**, **7**, **8**, **12**, **13**, **14**, and **16** (including **DESTINATION COUNTRY** and **ENTER CODE** blocks, which are not numbered themselves). Block-specific instructions follow where appropriate. Block **2** is not filled in by you; the form comes with a preprinted unique number on it, and we have erased that on purpose here. Block **3** cannot be filled in until you know if you will need to use Form 17–140A, the continuation sheet for Form 17–140.

Next, fill in general information about this health certificate: insert the date on which you are issuing the certificate (block **4**), the location where the shipment is leaving the United States (blocks **5** and **6**), and the shipping method being employed (block **11**). Indicate whether or not this shipment is of semen (block **9**) and if so, how many doses are being shipped (block **10**).

Determine which non poultry **SPECIES** is being shipped (block **15**). Check only ONE species and describe all such animals on this Form 17–140. If the shipment includes animals of other species, fill out a separate Form 17–140 for each species and check the appropriate species in block **15** on each form. [If the shipment includes poultry, do not use Form 17–140 for the poultry, use Form 17–6 instead.]

Fill in the **FARM ORIGIN** information (block **17**) as specified on the form itself. Then determine which types of tests you are certifying and complete the blocks on the central and right-hand parts of the form accordingly.

In the **CERTIFICATION BY ISSUING VETERINARIAN** section at the bottom of Form 17–140, you will give information about yourself in blocks **20** and **21**, fill in the total number of animals on all sheets describing this shipment in block **22**, and sign your name in block **25**. Leave blocks **23 and 24** blank. The endorsing Federal veterinarian will complete blocks **23 and 24**.

Block-by-Block Instructions

PAGE NO. [block 3]
If all animals in this shipment can be described in the space on this form, enter "1 of 1" in block **3**. If not, use Form 17–140A (Continuation Sheet for the United States Origin Health Certificate) to account for all animals being shipped and enter "1 of X" with "X" standing for the total number of forms involved.

DATE ISSUED [block 4]
Enter the date the veterinary inspection is completed.

U.S. PORT OF EMBARKATION [block 5]
For an export by land to Canada or Mexico, enter the city and state of the US POE across from the Canadian or Mexican POE. For an export by air or sea, enter the city and state of the loading point for transportation to the airport or seaport, which would usually be the location where the animals were prepared for export.

STATE CODE [block 6]
The two letter USPS code of the State for the port of embarkation listed in block **5**.

STATE CODE [block 13]
The two letter USPS code of the consignor's State listed in block **12**.

The certificate is authorized by law 21 U.SC 112). While you are not required to respond, no health certificate can be validated unless the data requested is provided. FORM APPROVED - OMB NO. 0579-0020

U.S. DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
VETERINARY SERVICES

UNITED STATES ORIGIN HEALTH CERTIFICATE

(This document does not replace Certificate of Inspection of Export Animals, VS Form 17-27)

1. CONSIGNOR'S NAME *(Last name, first name, middle initial or business name)*

2. CERTIFICATE NO

3. PAGE NO. 1 OF

4. DATE ISSUED

5. U.S. PORT OF EMBARKATION *(City and State)*

6. STATE CODE

7. CONSIGNOR'S STREET ADDRESS *(Mailing Address)*

8. CONSIGNOR'S CITY *(or Town)*

12. CONSIGNOR'S STATE

13. STATE CODE

14. ZIP CODE

9. SEMEN *(Check if yes)* ☐

10. NO. DOSES OF SEMEN

11. TRANSPORTATION CLASS
1 - Rail 3 - Air
2 - Truck 4 - Ocean ☐

16. CONSIGNEES NAME AND STREET ADDRESS *(Mailing Address)*

DESTINATION COUNTRY

ENTER CODE

15. SPECIES *("X" one - use VS Form 17-6 for Poultry)*
☐ 01 BOVINE ☐ 02 PORCINE ☐ 03 OVINE ☐ 04 CAPRINE
☐ 05 EQUINE ☐ 08 OTHER WILDLIFE - MAMMAL
☐ 09 OTHER *(Specify)*

NEGATIVE TUBERCULIN READING
☐ 48 HRS. ☐ 72 HRS.

BRUCELLOSIS BLOOD SAMPLE COLLECTED

NEGATIVE RESULTS OF OTHER TESTS

DISEASE / TYPE TEST / DATE

CERTIFIED BRUCELLOSIS FREE AREA

MODIFIED ACCREDITED AREA (TB)

If more lines are needed below - use VS Form 17-140A.

17. FARM ORIGIN
Owner's name (Last name, two initials, or business name)
Owner's street address
Owner's city/town, state code (FIPS code on reverse) & zip code

18. INDIVIDUAL IDENTIFICATION
(Instructions for columns A, B, C & D on reverse)

ID NO. OR DESCRIPTION A	AGE B	SEX C	BREED D	√ E	F	G	DATE H	VAC I	1/25 J	K	1/100 L	DISEASE DATE M	DISEASE DATE N	DISEASE DATE O

SAMPLE

VALID ONLY IF USDA VETERINARY SEAL APPEARS HERE

CERTIFICATION BY ISSUING VETERINARIAN

This is to certify that the animals identified above were inspected by me on this date and found to be free from evidence of communicable diseases and insofar as can be determined exposure thereto; the premises of origin are not under Federal or State quarantine because of animal disease; the animals were all negative to the tests shown on the dates indicated. Arrangements have been made for the animals to be handled in a transporting vehicle that has been cleaned and disinfected since last used for livestock and for movement to the port of embarkation without exposure to other animals en route, except those meeting these health requirements. The shipment must be accompanied to the port of export with this certificate.

19. DATE ENDORSED

20. NAME OF ISSUING VETERINARIAN *(Last name, first name, middle initial,- please print)*

21. STATUS ☐ 2 Federal ☐ 1 State ☐ 3 Accredited

22. TOTAL NO OF ANIMALS *(Certified for export or donated semen) (Include nos. from all attached VS Forms 17-140A)*

24. NAME OF ENDORSING FEDERAL VET *(Type, print, or stamp)*

25. SIGNATURE OF ISSUING VETERINARIAN

23. Signature of endorsing federal veterinarian

VS FORM 17-140 (MAR 98) Previous edition may be used.

PART 1 - TO ACCOMPANY SHIPMENT

VS Form 17–140A: Continuation Sheet for United States Origin Health Certificate

Use this form only when the number of individually identified animals in a shipment exceeds 18, thus overflowing the space available in blocks **17** and **18** of VS Form 17–140.

The name in block **1** of this form is the same as the Consignor's Name in block **1** of the corresponding Form 17–140. Likewise, the Consignee's Name in block **16** of this form is the same as that name in block **16** on the corresponding Form 17–140.

In block **2**, insert the preprinted certificate number from block **2** of the corresponding Form 17–140. Fill in the final page count in block **3** ("2 of X" or "3 of X" with X standing for the total number of forms including all continuation sheets).

The directions for blocks **17** and **18** are the same as for those blocks on the Form 17–140. No signatures are required on these continuation sheets.

This certificate is authorized by law (21 USC 112), while you are not required to respond, no health certificate can be validated unless the data requested is provided. See reverse side for additional information. Form Approved OMB NO. 0579-0020

U.S. DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
VETERINARY SERVICES

CONTINUATION SHEET FOR
UNITED STATES ORIGIN HEALTH CERTIFICATE

1. FIRST CONSIGNOR'S NAME *(last name, first name, middle initial or business name)*

16. CONSIGNEE'S NAME

2. CERTIFICATE NO. FROM VS FORM 17-140

3. PAGE NO. OF

NEGATIVE TUBERCULIN READING — 48 HRS. ☐ 72 HRS. ☐

BRUCELLOSIS BLOOD SAMPLE COLLECTED

NEGATIVE RESULTS OF OTHER TESTS

17. FARM ORIGIN
Owner's name *(Last name, two initials, or business name)*
Owner's street address
Owner's city/town, state code & zip code

MODIFIED ACCREDITED AREA (TB) — CERTIFIED BRUCELLOSIS FREE AREA

18. INDIVIDUAL IDENTIFICATION

ID NO. OR DESCRIPTION A	AGE B	SEX C	BREED D	✓ E	DATE F	✓ G	DATE H	VAC. I	1/25 J	1/50 K	1/100 L	DISEASE TYPE TEST / DATE M	DISEASE TYPE TEST / DATE N	DISEASE TYPE TEST / DATE O

SAMPLE

VS FORM 17-140A (MAY 89) *Previous edition may be used.*

PART 1 - TO ACCOMPANY SHIPMENT

APHIS Form 7001: United States Interstate and International Certificate of Health Examination for Small Animals

DATE OF THE FORM (Bottom left corner)

This form was revised in November 2010, so there are two versions in circulation, the August 1994 version and the November 2010 version. The two major changes to the November 2010 version are that there is no owner certification/signature block and the veterinarian certification block has been modified. There are other changes to the information required. You may use either version of this form until the supply of the August 1994 version is used up or withdrawn. The 7001A continuation form is dated September 1983 and it should be used when needed with either the August 1994 or November 2010, 7001 certificates.

TYPE OF ANIMAL SHIPPED

On this form, you may mix animals of different species. Check all species that apply to the current shipment.

CERTIFICATE NUMBER

Again, this number is preprinted on the official APHIS Form 7001. We have erased the form number in this example for security reasons.

TOTAL NUMBER OF ANIMALS

Self-explanatory. The PAGE block directly to the right of the total number of animals block refers to "Page 1 of X" where X indicates the continuation sheets (APHIS Form 7001A) that are attached with this Form 7001. If there are no continuation sheets just write 'Page 1'.

NAME, ADDRESS AND TELEPHONE NUMBER OF OWNER/CONSIGNOR

Self-explanatory. If the consignor is licensed or registered under the Animal Welfare Act, include his or her official USDA number. Insert his or her telephone number regardless of registration status.

NAME, ADDRESS AND TELEPHONE NUMBER OF CONSIGNEE

Insert the shipper's information here, including USDA license or registration number (if applicable) and phone number.

ANIMAL IDENTIFICATION

The owner or consignor (shipper) fills in this information. The owner or consignor also checks with an X both certification in the unnumbered block below line 10 of block 5 and signs and dates the form below those check-marked blocks.

VACCINATION HISTORY

You fill in this section. If rabies certificates are involved, attach them (showing your original signature, not a photocopy) at the black arrow on the right-hand side of the form.

VETERINARY CERTIFICATION

Check the block(s) that apply. Print your name, address and telephone number in the block provided and insert your license number and the name of the State where you received it (or your NAN if appropriate). Finally, sign at the bottom right and insert the date you examined the animals on this certificate.

ENDORSEMENT FOR INTERNATIONAL EXPORT [unnumbered block at the lower left corner of the form]

If the animals on this shipment are being sent out of the United States, a USDA veterinarian must apply the USDA seal or stamp and sign and date this form 7001.

No dog, cat, nonhuman primate, or additional kinds or classes of animals designated by USDA regulation shall be delivered to any intermediate handler or carrier for transportation in commerce, unless accompanied by a health certificate executed and issued by a licensed veterinarian (7 USC 2143; 9 CFR, Subchapter A, Part 2). (See reverse for additional OMB statement.)

FORM APPROVED
OMB NO. 0579-0036

U.S. DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

UNITED STATES INTERSTATE AND INTERNATIONAL CERTIFICATE OF HEALTH EXAMINATION FOR SMALL ANIMALS

WARNING: Anyone who makes a false, fictitious, or fraudulent statement on this document, or uses such document knowing it to be false, fictitious or fraudulent may be subject to a fine of not more than $10,000 or imprisonment of not more than 5 years, or both (18 U.S.C. 1001).

1. TYPE OF ANIMAL SHIPPED
☐ Dog ☐ Cat ☐ Other
☐ Nonhuman Primate

CERTIFICATE NUMBER

2. TOTAL NUMBER OF ANIMALS

PAGE

3. NAME, ADDRESS AND TELEPHONE NUMBER OF OWNER/CONSIGNOR

USDA Licence or Registration No. if applicable

Telephone

4. NAME, ADDRESS AND TELEPHONE NUMBER OF CONSIGNEE

USDA Licence/or Registration No. if applicable

Telephone

5. ANIMAL IDENTIFICATION *(To be completed by owner/consignor)*

COMPLETE USDA TAG, COLLAR AND/OR TATTOO NUMBER	BREED - COMMON OR SCIENTIFIC NAME	AGE	SEX	COLOR OR DISTINCTIVE MARKS
(1)				
(2)				
(3)				
(4)				
(5)				
(6)				
(7)				
(8)				
(9)				
(10)				

6. VACCINATION HISTORY *(To be completed by veterinarian)*

attach original signature rabies certificate here →

RABIES ☐ Killed Virus ☐ Live Virus		D-H		OTHER VACCINATIONS, TESTS OR TREATMENT	
Date	Product		Product	Date	Type/Result

SAMPLE

"X" applicable statements.

☐ OWNER/CONSIGNOR CERTIFICATION: I certify that [illegible]ion concerning the animals described above in Item 5 is true and correct, and that I am the [illegible] consignor of such described animals and that I have physical and legal custody of such animals.

☐ I hereby certify that the animals(s) in this shipment is (are), to the best of my knowledge, acclimated to air temperatures lower than 7.2°c, (45°f.).

SIGNATURE | DATE

ENDORSEMENT FOR INTERNATIONAL EXPORT (WARNING: International shipments require certification by an accredited veterinarian. States may also require such certification)

Apply USDA Seal or stamp here

SIGNATURE OF USDA VETERINARIAN | DATE

VETERINARY CERTIFICATION: I certify that the animals described in Item 5 have been examined by me this date, that the information provided in Item 6 is true and accurate to the best of my knowledge; and that the following findings have been made. "X" applicable statements.

☐ I certify that the animals described above, and on continuation sheet(s) if applicable, have been inspected by me this date and appear to be free of any infectious or contagious diseases and to the best of my knowledge, exposure thereto, which would endanger the animal or other animals or would endanger public health.

☐ I certify that the animals described above, and on continuation sheet(s) if applicable, have been inspected by me this date and appear to be free of physical abnormalities which would endanger the animal.

☐ To my knowledge, the animals described above, and on continuation sheet(s) if applicable, originated from an area not quarantined for rabies and have not been exposed to rabies.

NAME, ADDRESS AND TELEPHONE NUMBER

Telephone

LICENSE NO.

Accredited ☐ Yes ☐ No

LICENSING STATE

SIGNATURE | DATE

APHIS FORM 7001 (AUG 94) Replaces edition of (November 1991) which may be used

This certificate is valid for 30 days after issuance

PART 1 - TO ACCOMPANY SHIPMENT

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a valid OMB control number. The valid OMB control numbers for this information collection are 0579-0036 and 0579-0333. The time required to complete this information collection is estimated to average .25 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

No dog, cat, nonhuman primate, or additional kinds or classes of animals designated by USDA regulation shall be delivered to any intermediate handler or carrier for transportation in commerce, unless accompanied by a health certificate executed and issued by a licensed veterinarian (7 U.S.C. 21.43.9; CFR, Subchapter A, Part 2).

OMB APPROVED
0579-0036
0579-0333

16-44

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

UNITED STATES INTERSTATE AND INTERNATIONAL CERTIFICATE OF HEALTH EXAMINATION FOR SMALL ANIMALS

WARNING: Anyone who makes a false, fictitious, or fraudulent statement on this document, or uses such document knowing it to be false, fictitious, or fraudulent may be subject to a fine of not more than $10,000 or imprisonment of not more than 5 years or both (18 U.S.C. 1001).

1. TYPE OF ANIMAL SHIPPED (select one only)

☐ Dog ☐ Cat ☐ Other_____

☐ Nonhuman Primate ☐ Ferret ☐ Rodent

2. CERTIFICATE NUMBER - OFFICIAL USE ONLY

3. TOTAL NUMBER OF ANIMALS

4. PAGE

5. NAME, ADDRESS, AND TELEPHONE NUMBER OF OWNER (*CONSIGNOR*)

6. NAME, ADDRESS, AND TELEPHONE NUMBER OF RECIPIENT AT DESTINATION (*CONSIGNEE*)

USDA License/or Registration Number (*if applicable*)

7. ANIMAL IDENTIFICATION

NAME, AND/OR TATTOO NUMBER OR OTHER IDENTIFICATION	BREED – COMMON OR SCIENTIFIC NAME	AGE	SEX	COLOR OR DISTINCTIVE MARKS OR MICROCHIP
(1)				
(2)				
(3)				
(4)				
(5)				
(6)				

8. PERTINENT VACCINATION, TREATMENT, AND TESTING HISTORY

RABIES VACCINATION

☐ 1 YEAR ☐ 2 YEARS ☒ 3 YEARS

Vaccination Date	Product	D	OTHER VACCINATIONS, TREATMENT, AND/OR TESTS AND RESULTS Product Type and/or Results

9. REMARKS OR ADDITIONAL CERTIFICATION STATEMENTS (*WHEN REQUIRED*)

VETERINARY CERTIFICATION: I certify that the animals described in box 7 have been examined by me this date, that the information provided in box 8 is true and accurate to the best of my knowledge, and that the following findings have been made ("**X**" applicable statements).

☐ I have verified the presence of the microchip, if a microchip is listed in box 7.

☐ I certify that the animal(s) described above and on continuation sheet(s), if applicable, have been inspected by me on this date and appear to be free of any infectious or contagious diseases and to the best of my knowledge, exposure thereto, which would endanger the animal or other animals or would endanger public health.

☐ To my knowledge, the animal(s) described above and on continuation sheet(s) if applicable, originated from an area not quarantined for rabies and has/have not been exposed to rabies.

ENDORSEMENT FOR INTERNATIONAL EXPORT (*IF NEEDED*)

PRINTED NAME OF USDA VETERINARIAN

NAME, ADDRESS, AND TELEPHONE NUMBER OF ISSUING VETERINARIAN

LICENSE NUMBER AND STATE

Accredited ☐ **Yes** ☐ **No**
If yes, please complete below

NATIONAL ACCREDITATION NUMBER

NOTE: International shipments may require certification by an accredited veterinarian.

SIGNATURE OF USDA VETERINARIAN ***Apply USDA Seal or Stamp here***

DATE

SIGNATURE OF ISSUING VETERINARIAN

DATE

SAMPLE

APHIS Form 7001
(NOV 2010)

This certificate is valid for 30 days after issuance

No dog, cat, nonhuman primate, or additional kinds or classes of animals designated by USDA regulation shall be delivered to any intermediate handler or carrier for transportation in commerce, unless accompanied by a health certificate executed and issued by a licensed veterinarian (7 USC 2143; 9 CFR, Subchapter A, Part 2).

(See reverse for additional OMB statement.)

FORM APPROVED
OMB NO. 0579-0036

U.S. DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

UNITED STATES INTERSTATE AND INTERNATIONAL CERTIFICATE OF HEALTH EXAMINATION FOR SMALL ANIMALS

(Continuation Sheet)

1. CERTIFICATE NUMBER
(Insert certificate no. from page 1)

2. PAGE ..... OF .....

3. NAME, ADDRESS AND TELEPHONE NUMBER OF OWNER/CONSIGNOR

4. NAME, ADDRESS AND TELEPHONE NUMBER OF CONSIGNEE

5. ANIMAL IDENTIFICATION *(To be completed by owner/consignor)*

6. VACCINATION HISTORY *(To be completed by veterinarian)*

attach original signature rabies certificate here →

COMPLETE USDA TAG, COLLAR AND/OR TATTOO NUMBER	BREED - COMMON OR SCIENTIFIC NAME	AGE	SEX	COLOR OR DISTINCTIVE MARKS	RABIES ☐ Killed Virus ☐ Live Virus		D-H...		OTHER VACCINATIONS, TESTS OR TREATMENT	
					Date	Product		Product	Date	Type/Result
(11)										
(12)										
(13)										
(14)										
(15)										
(16)										
(17)										
(18)										
(19)										
(20)										
(21)										
(22)										
(23)										
(24)										
(25)										
(26)										
(27)										
(28)										
(29)										
(30)										
(31)										

SAMPLE

APHIS FORM 7001A (SEP 93) *(Replaces VS Form 18-1A, which may be used)*

PART 1 - TO ACCOMPANY SHIPMENT

APHIS Form 7001A: United States Interstate and International Certificate of Health Examination for Small Animals (Continuation Sheet)

Please note, the APHIS Form 7001 was revised in November 2010, so there are two versions in circulation, the August 1994 version and the November 2010 version. You may use either version of the APHIS FORM 7001 until the supply of the August 1994 version is used up or withdrawn. The 7001A continuation form is dated September 1983 and it should be used when needed with either the August 1994 or November 2010, 7001 certificates.

CERTIFICATE NUMBER [block 1]
Insert by hand the preprinted certificate number from block **1** of the Form 7001 for which this 7001A is a continuation sheet.

PAGE [block 2]
Insert page 2 (or 3, etc.) of X, with X standing for the total number of sheets of Form 7001 and all 7001A forms for this entire shipment.

NAME, ADDRESS AND TELEPHONE NUMBER OF OWNER/CONSIGNOR [block 3]
Transfer this information from block **3** of the Form 7001. You do not need to repeat the USDA license or registration number. Do repeat the shipper's telephone number, however.

NAME, ADDRESS AND TELEPHONE NUMBER OF CONSIGNEE [block 4]
Transfer this information from block **4** of the Form 7001. You do not need to repeat the USDA license or registration number. Do repeat the recipient's telephone number, however.

ANIMAL IDENTIFICATION [block 5, lines 11–31 as needed]
The owner or consignor (shipper) fills in this information.

VACCINATION HISTORY [block 6]
You fill in this section. If rabies certificates are involved for the animals on this continuation sheet, attach them (showing your original signature, not a photocopy) at the black

VS Form 17-145: U. S. Origin Health Certificate for the Export of Horses from the United States to Canada

General Information and Navigation Hints

This Origin Health Certificate may be used for the permanent or temporary export of horses from the United States to Canada except for horses for immediate slaughter. VS Form 17-140 must be used for the export of immediate slaughter horses from the United States to Canada.

The markings on the legs are as viewed from the rear of the horse. Therefore the two legs on the left side of the form (marked Fore) are for marking the front legs as viewed from the rear of the horse. The two legs on the right side of the form (Marked Hind) are for marking the back legs as viewed from the rear of the horse.

The age of the horse may be listed in days, weeks, months, or years and the letters “d, w, m, y” should be added to the age number to clarify.

The endorsing Federal Veterinarian will add the Health Certificate Number when endorsed.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB number. The valid OMB control number for this information collection is 0579-0032. The time required to complete this collection of information is estimated to average .266 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the form.

U.S. ORIGIN HEALTH CERTIFICATE FOR THE EXPORT OF HORSES FROM THE UNITED STATES TO CANADA

☐ **PERMANENT EXPORT** ☐ **TEMPORARY EXPORT (*NOTE BELOW)** FORM APPROVED OMB NO. 0579-0032

NAME AND ADDRESS OF CONSIGNOR	NAME AND ADDRESS OF PLACE OF ORIGIN	NAME AND ADDRESS OF CONSIGNEE

CERTIFICATION STATEMENTS

1. The animal identified below was inspected within 30 days prior to export and found to be healthy and free from evidence of communicable diseases and exposure thereto;

Either (Check Appropriate Box)

☐ 2. The animal has resided in the United States or Canada since birth;

☐ 3. The animal has met all of the import requirements of the United States and has resided in the United States for the past 60 days;

☐ 4. The animal was authorized for importation by the Animal Health Division, Agriculture Canada (required for horses from countries other than Canada that have resided in the United States less than 60 days);

5. The animal was tested negative for equine infectious anemia using the agar gel immunodiffusion (Coggins) test at:

Name of Laboratory	Date blood sample drawn	Sample Drawn by me or (Enter name of accredited veterinarian)	State

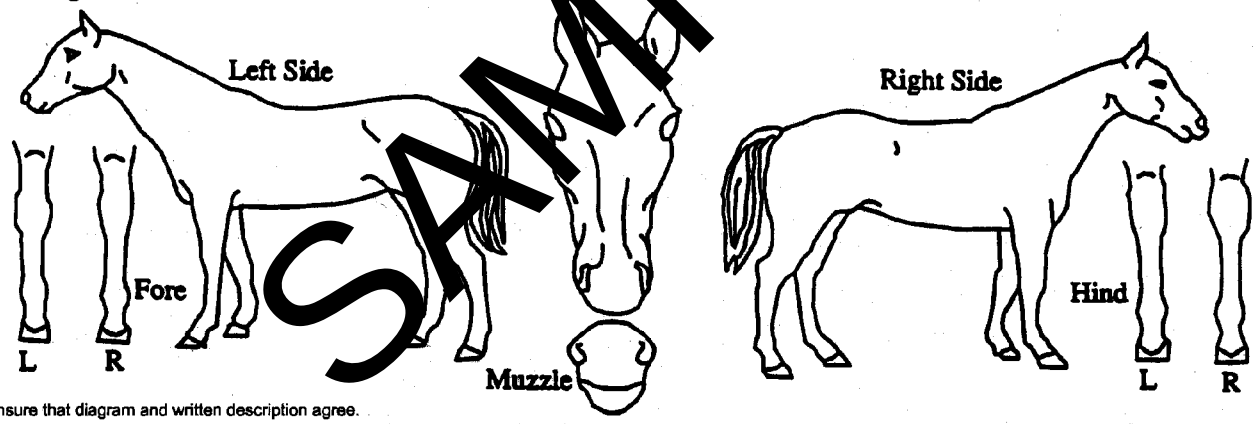
Laboratory Accession No.	HEALTH CERTIFICATE NUMBER

Issuing Veterinarian		**Endorsing Federal Veterinarian**	
Signature		Signature and Seal	
Name (Type or Print)	Date	Name	Date

**Health Certificate valid for 30 days from the date of issuance (note below) | d only if the USDA Veterinary Seal appears over the signature of the endorsing Federal Veterinarian and health certificate number)

SAMPLE

White Markings and Whorls Must be Shown!



Please ensure that diagram and written description agree.

Name	Breed	Age	Color	Sex

Written Description:

HEAD	LIMBS	
	LF	RF
BODY		
ACQUIRED MARKS (scars, tattoos, etc.)	LH	RH

Instructions: Mark the diagram with the exact position of any distinguishing marks, scars or brands. Brands to be drawn in position. Scars to be marked and indicated with an arrow (->). Stars or blazes on the face and any other markings to be drawn in on the diagrams showing position and shape as accurately as possible. Whorls should be marked with a cross (X). If no markings - this fact should be stated.

NOTE: The original copy of the health certificate must remain with the horse if the horse is being temporarily exported. Any clearance by Customs, such as a stamp, must be affixed on the reverse side of the original health certificate.

****NOTE: The date of issuance must be the date of veterinary inspection.**

Exporter must furnish four (4) copies for USDA endorsement. The original and two (2) copies accompany the shipment, the fourth copy is for the AVIC's office.

VS FORM 17-145 (MAY 2000)

Appendix E – Other Organizational Information with Contact Points

Through its National Center for Import and Export (NCIE), VS facilitates the domestic and international marketability of U.S. animals and animal products. The growing interest in agricultural trade in the global market has expanded VS' role to include ensuring that new trade opportunities are created while the Nation's animal health continues to be safeguarded.

Under the World Trade Organization (WTO), Sanitary and Phytosanitary (SPS) Agreement, countries are required to formulate their sanitary import measures on science-based principles and guidelines. The WTO recognizes the World Organization for Animal Health (formerly known as the Office of International Epizooties) (OIE) as the international forum for setting animal health standards, reporting global animal events and disease status, and presenting guidelines and recommendations on sanitary measures relating to animal health.

OIE and International Standards

The OIE was established in Paris, France, in 1924 with the signing of an international agreement by 28 countries. As of March 2011, the organization had 178 Members, each of which is represented by a delegate who, in most cases, is the chief veterinary officer of the country. The mission of the OIE is to prevent the spread of animal diseases. To achieve this mission, OIE has three primary functions: (1) to collect and disseminate information on the distribution and occurrence of animal diseases, (2) to coordinate research on contagious animal diseases, and (3) to develop international standards for the safe movement of animals and animal products in international trade.

In recent years, the mandate of the OIE has expanded to include animal welfare, food production and food safety, and strengthening of the veterinary services. Within VS, four major program areas interact directly with the OIE: (1) NCIE's International Animal Health Standards Team (IAHST), (2) the National Veterinary Services Laboratories, (3) the Centers of Veterinary Biologics, and (4) the Centers for Epidemiology and Animal Health (CEAH).

NCIE's International Animal Health Standards Team

• Guides the development of sound international health standards for safe trading in animals and animal products by coordinating consensus-based comments on proposed modifications to chapters of the OIE Terrestrial and Aquatic Animal Health Codes.

• Maintains a database of disease and subject matter experts to review specific code chapters.
• Monitors and evaluates reports and scientific data produced by the OIE.
• Compiles the Annual Tabular and Narrative Disease Reports on World Animal Health Status of Member Countries and submits monthly disease reports.
• Coordinates import and export efforts to address the international movement of livestock, biological products, and animal products and provides recommendations on health conditions related to the movement of animals and animal products.
• Prepares agendas, briefs, and trade-issue analyses for the delegates attending the Quadrilateral Animal Health Committee Meeting (Australia, Canada, New Zealand, and the United States), the North American Animal Health Committee Meeting (Canada, Mexico, and the United States), and the OIE annual General Session.
• Recommends changes to address trade issues effectively and to align USDA standards and policies with international standards.
• Represents the Deputy Administrator and the Department of Agriculture at meetings with international officials as well as with livestock and poultry industry representatives.

Contact Point for the International Animal Health Standards Team
National Center for Import and Export
International Animal Health Standards Team
USDA–APHIS–VS
4700 River Rd., Unit 33
Riverdale, MD 20737–1231
Tel: (301) 734–5324
Fax: (301) 734–8818
e-mail: usa.oie@aphis.usda.gov

CEAH: An OIE Collaborating Center

As an OIE collaborating center, CEAH share their risk analysis and disease surveillance expertise with member countries. It provides them with technical assistance and expert advice on disease surveillance and control and risk analysis. As a collaborating center, CEAH fulfills the following objectives:
• Reviews, evaluates, and adapts methodologies and approaches to enhance animal disease surveillance systems and the risk analysis process.
• Promotes a harmonized approach to disease surveillance and risk analysis.
• Provides technical assistance to OIE member countries as needed.
• Improves the quality of animal disease surveillance and risk analysis by establishing a critical mass of trained individuals in OIE member countries.
• Networks with other OIE collaborating centers to coordinate activities.

Contact Point for CEAH

Centers for Epidemiology and Animal Health
USDA–APHIS–VS
2150 Centre Ave., Bldg. B
Fort Collins, CO 80526
Tel: (970) 494–7200
Fax: (970) 472–2668
e-mail: ceah@aphis.usda.gov

Center for the Diagnosis of Animal Diseases and Vaccine Evaluation for the Americas: An OIE Collaborating Center

The Center for the Diagnosis of Animal Diseases and Vaccine Evaluation for the Americas consists of three components:
The National Veterinary Services Laboratories (NVSL)
The Center for Veterinary Biologics (CVB)
The Institute for International Cooperation in Animal Biologics (IICAB).

NVSL

NVSL are full-service laboratories that have expertise in all of the diagnostic tests for significant animal diseases found in the Americas. These laboratories are committed to sharing and harmonizing these procedures with other countries in the Americas. The NVSL support the OIE by

- Providing diagnostic assistance such as agent isolation and characterization;
- Supplying reference reagents to other laboratories, which can be used to standardize testing or for routine diagnosis;
- Evaluating diagnostic reagents used by other countries and exchanging sera to standardize and harmonize testing;
- Providing training in the diagnostic tests that they perform
- Consulting on a wide range of techniques; and
- Conducting developmental projects to improve diagnostic techniques for diseases of significance in the Americas.

Contact point for NVSL

National Veterinary Services Laboratories
USDA–APHIS–VS
1920 Dayton Ave
P.O. Box 844
Ames, IA 50010
Tel: (515) 337–7266
Fax: (515) 337–7397
e-mail: NVSL_Concerns@aphis.usda.gov

CVB
CVB is the sole confirmatory and investigatory testing laboratory involved in regulation of commercial veterinary biologics (vaccines and diagnostic kits) in the United States. CVB supports OIE by
• Developing, distributing, and using worldwide standard protocols for biologics evaluation and training scientists from throughout the world in these protocols;
• Validating and providing standard reagents to biologics manufacturers and regulatory laboratories worldwide;
• Conducting developmental projects to improve biological techniques for diseases of significance in the Americas;
• Reviewing, developing, comparing, and harmonizing testing protocols in collaboration with industry and other Government laboratories; and
• Hosting scientific meetings in the area of veterinary biologics.

Contact point for CVB

Center for Veterinary Biologics
USDA–APHIS–VS
1920 Dayton Ave
PO Box 844
Ames, IA 50010
Tel: (515) 337–7331
Fax: (515) 337–7397
e-mail: cvb@aphis.usda.gov

IICAB

IICAB is based at Iowa State University and concentrates its efforts on education and implementation of international communication and harmonization activities related to the availability, safety, and efficacy of veterinary biologics. IICAB supports OIE by

• Offering training on scientific principles behind vaccine safety and efficacy;

• Working with other international organizations to harmonize regulations for veterinary biologics in the Americas;

• Assisting developing countries to obtain veterinary biologics for specific unmet needs and in their efforts to manufacture, import, and regulate veterinary biologics and diagnostics; and

• Organizing scientific meetings and serving as an international resource for information on the use of veterinary biologics.

Contact point for IICAB

Institute for International Cooperation in Animal Biologics
College of Veterinary Medicine
Iowa State University
Ames, IA 50010
Tel: (515) 294–7189
Fax: (515) 294–8259
e-mail: iicab@iastate.edu

Appendix F – Web Sites

The following Web sites may assist you in fulfilling your duties as an accredited veterinarian:

http://www.usda.gov — The U.S. Department of Agriculture

http://www.aphis.usda.gov — The Animal and Plant Health Inspection Service

http://www.aphis.usda.gov/animal_health/index.shtml — Veterinary Services

http://www.aphis.usda.gov/animal_health/vet_accreditation/ — The National Veterinary Accreditation Program. Addresses and phone numbers of the Area Veterinarians-in-Charge and the State animal health officials can be accessed through this site as well as information about the program, including an online form to update your address information for the APHIS accredited veterinarian database.

http://www.aphis.usda.gov/about_aphis/programs_offices/veterinary_services/ncahp.shtml — The National Center for Animal Health Programs

http://www.aphis.usda.gov/import_export/ — The National Center for Import and Export The site includes, but is not limited to, information about animal import and export ports, animal products that do not require an import permit, country disease status, international animal export regulations, international animal product export regulations, and State animal import regulations.

http://www.access.gpo.gov/nara/cfr/waisidx_04/9cfrv1_04.html — Code of Federal Regulations

http://www.aphis.usda.gov/newsroom/hot_issues/bse/index.shtml — BSE information

http://www.dhs.gov/dhspublic/ — U.S. Department of Homeland Security

http://www.cdc.gov/animalimportation/TravelingPets.html — Centers for Disease Control and Prevention (importation of pets)

http://laws.fws.gov — U.S. Fish and Wildlife Service

http://www.cbp.gov — U.S. Customs and Border Patrol

http://www.avma.org — The American Veterinary Medical Association

http://www.oie.int/eng/en_index.htm — Office International des Epizooties

http://www.usaha.org — The United States Animal Health Association

http://www.nasda.org/cms/7195/8617.aspx — The National Association of State Departments of Agriculture

Equine Teeth and Aging

The age of horses, donkeys, and mules can be estimated by examining the eruption and wear patterns of the teeth. Figures 7 through 9 provide a usable reference to help the accredited veterinarian approximate a given horse's age. These figures are reprinted with the permission of the American Association of Equine Practitioners from the "Official Guide for Determining the Age of the Horse."

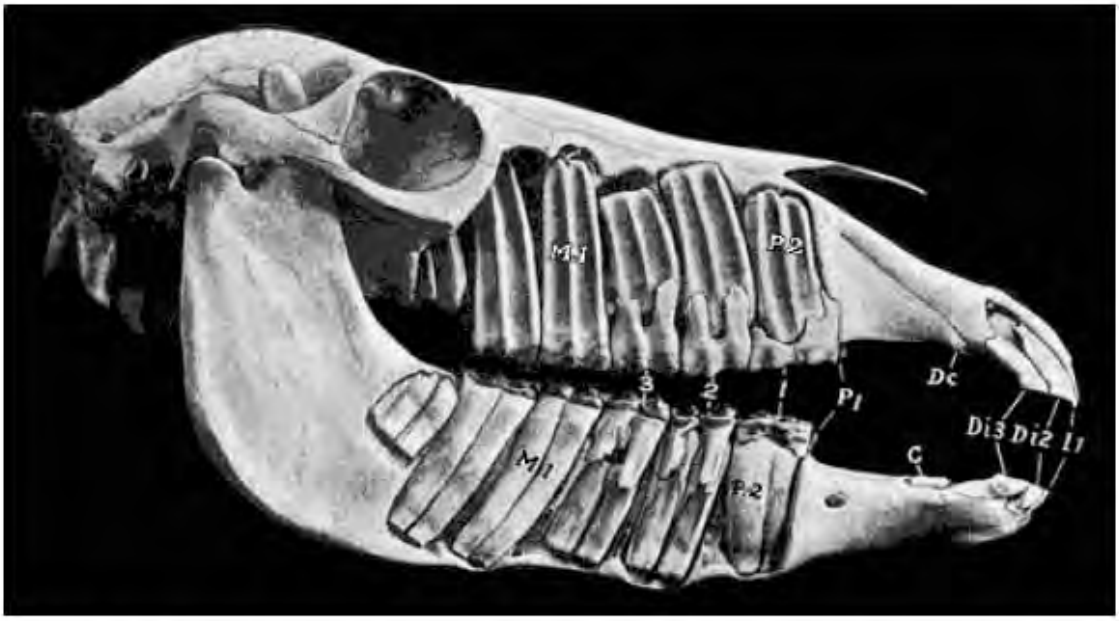


Figure 7—*Skull of a colt, 2½ years old, sculptured to show embedded parts of teeth. Both permanent and deciduous cheek teeth are shown. I 1 = first permanent incisor. Di 2 and D 33 are second and third deciduous incisors. Dc = deciduous canine. C = permanent canine. P 1 = first premolar ("wolf-tooth"). 1, 2, and 3 are deciduous premolars. P 2 = first permanent premolar. M 1 = first molar.*

In determining the age of a horse by its teeth, the examination is usually limited to the incisors. Eruption of the premolars and molars (cheek teeth) is a fairly accurate indication of age but is used infrequently. After the permanent teeth are in wear, determination of age becomes more difficult and quite speculative. No single feature or sign alone should be considered as reliable; all signs must be evaluated carefully.

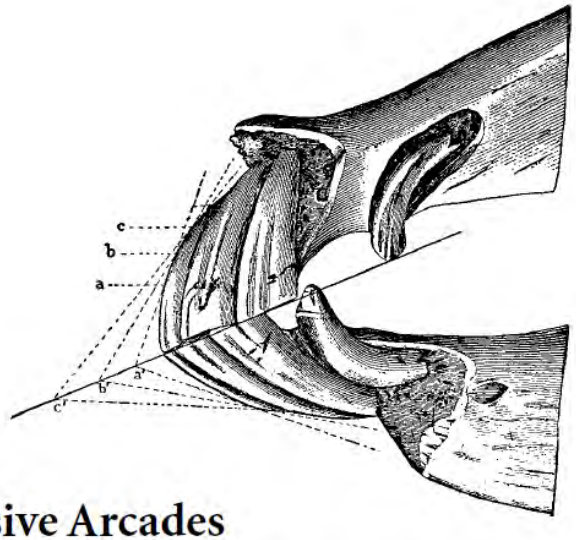
The eruption table given here is from Sisson and Grossman (19xx).

Eruption of the Teeth

The subjoined table incidates the average periods of the eruption of the teeth.

TEETH		ERUPTION
A. Deciduous:		
First incisor	(Di 1)	Birth or first week
Second incisor	(Di 2)	4–6 weeks
Third incisor	(Di 3)	6–9 months
Canine	(Dc)	
First premolar	(Dp 2)	Birth or first 2 weeks
Second premolar	(Dp 3)	Birth or first 2 weeks
Third premolar	(Dp 4)	Birth or first 2 weeks
B. Permanent:		
First incisor	(I 1)	2½ years
Second incisor	(I 2)	3½ years
Third incisor	(I 3)	4½ years
Canine	(C)	4–5 years
First premolar or wolf-tooth	(P 1)	5–6 months
Second premolar	(P 2)	2½ years
Third premolar	(P 3)	3 years
Fourth premolar	(P 4)	4 years
First molar	(M 1)	9–12 months
Second molar	(M 2)	2 years
Third molar	(M 3)	3½–4 years

(The periods given for P 3 and 4 refer to the upper teeth; the lower ones may erupt about 6 months earlier.)



The Incisive Arcades

When the incisors are viewed **in profile,** the angle between the upper and lower incisors becomes more acute with age.

Schematic Drawing of Incisors, Irregular Wear

Illustration depicts teeth of excessive length, which may have resulted from too-acute angulation at an early age, improper wear, or maintenance of the horse of a soft diet. Each line on the corner tooth represents **approximately** 1 year's growth. If **table** (occlusal) **surfaces** of incisors indicate age of 10 years and teeth were as illustrated, showing 10 lines, the age of the horse may be estimated as 20. (Number of lines added to indicated age of table surfaces equals estimated age.)

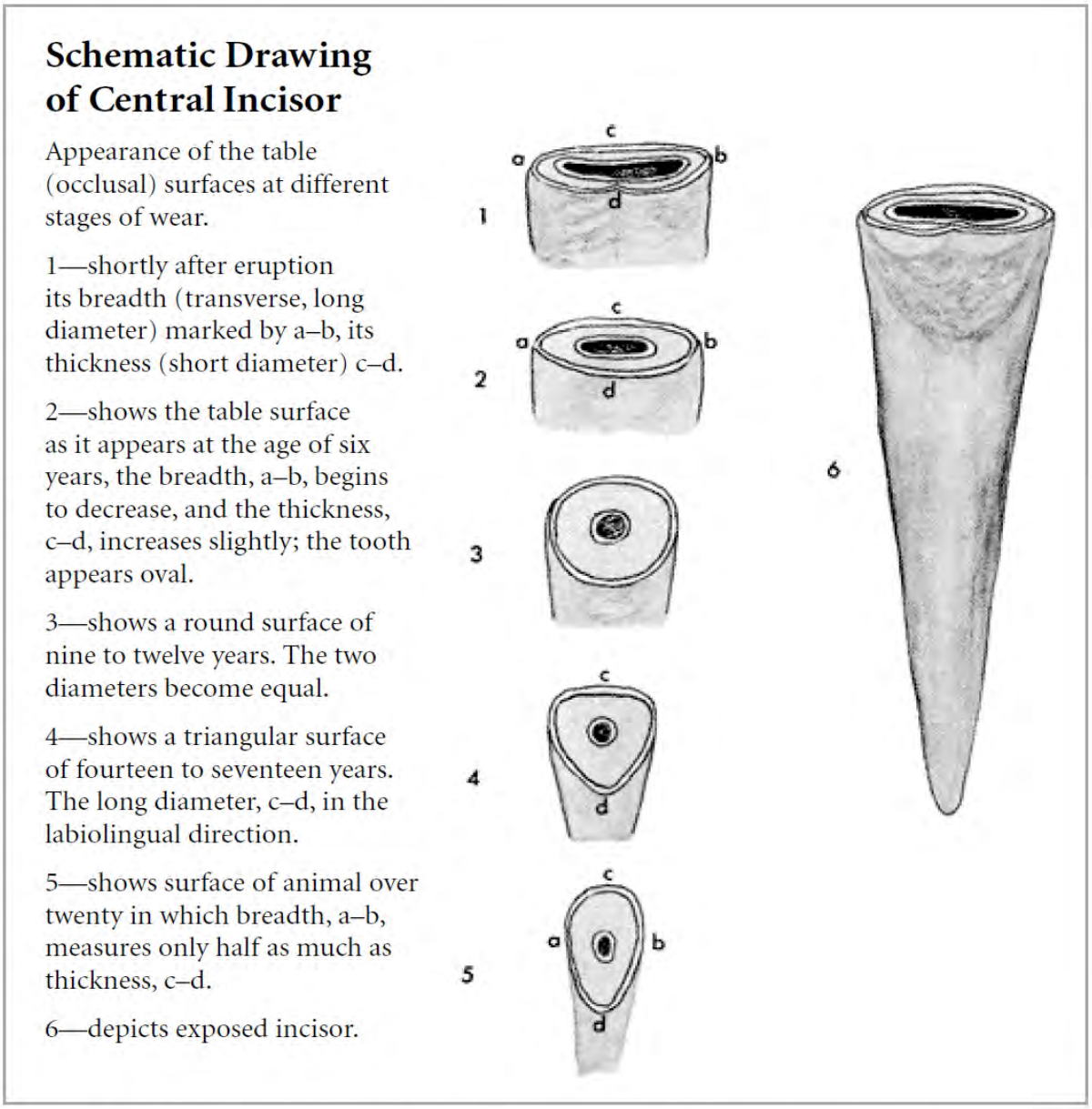
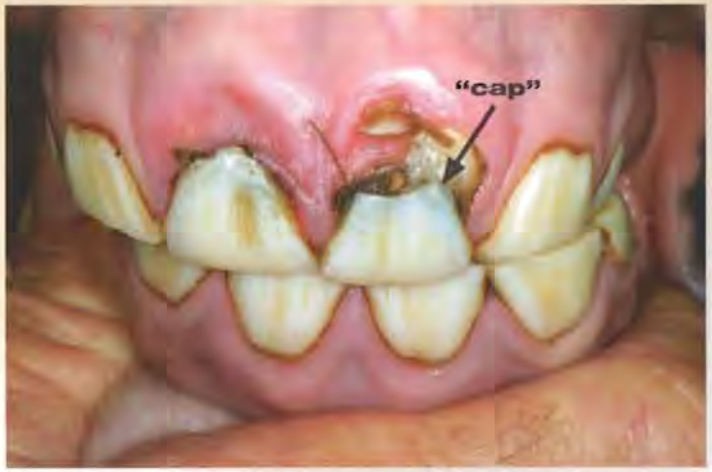


Figure 8—*A schematic drawing of the central incisor of the horse at various different ages. (Adapted from the "Official Guide for Determining the Age of the Horse," published by the American Association of Equine Practitioners.)*

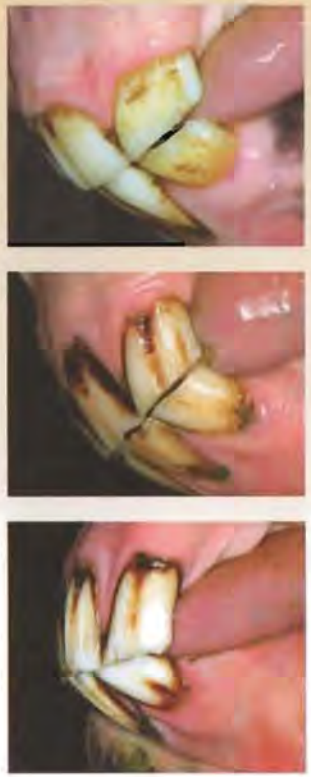
Figure 9 - *Equine incisors at various ages on the following pages. (Scanned from the Official Guide for Determining the Age of the Horse, Published by the American Association of Equine Practitioners.)*

Eruption



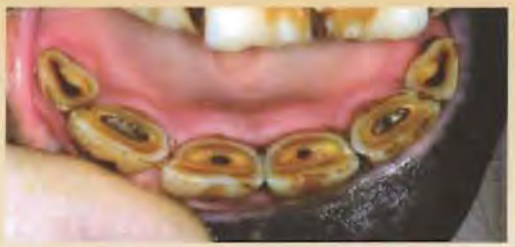
Emergence of tooth (either deciduous or permanent) at gum. Considered to be the most accurate of all indicators and is the only indicator used in horses under five years of age. Permanent teeth generally come into wear three to six months after eruption. In this photograph, the left upper central deciduous incisor ("cap") is being pushed off by the underlying permanent. The Eruption Table is shown on page *iv*. A recent publication suggests that shedding of the incisors may have a wider range than conventionally taught and generally incisors may be shed later than reported in the literature.

Length vs. Width of Upper Corner Incisor



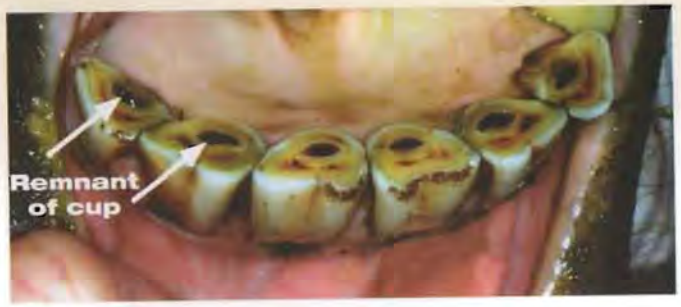
The shape of the permanent upper corner incisor has been used recently to categorize a horse's age into one of three groups from five to twenty years of age. Between five and nine years of age this tooth is generally wider than tall. At ages nine to ten the upper corner incisor appears square in most horses and then progresses to taller than wide as age increases.

Shape Changes of the Lower Incisor Table Surfaces



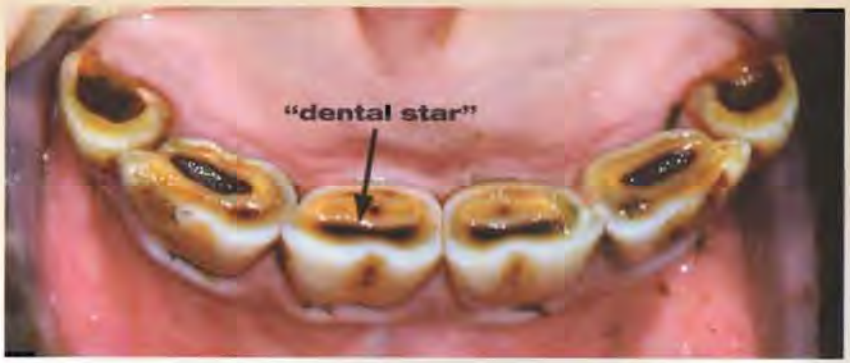
The shape of the table surfaces of the central incisors has traditionally been described as changing from oval to triangular to biangular. Although these shape changes are gradual and somewhat subjective in their assessment they are considered fairly reliable. The oval to round shape is consistent with the age of five to nine. Round to triangular shape is indicative of the age range of 10-15 and triangular to biangular (long in the labiolingual direction) in the 16-20 age range.

Disappearance of the Infundibular "Cups"



The infundibulum is an enamel infolding in the occlusal surface of the equine incisor. The "cup" is the hollow upper segment of this infolding and has a dark brown appearance, especially in horses eating grass. Older references show the disappearance of the cup to occur in I_1, I_2 & I_3 at six, seven and eight years. Recent studies have found more variability with the I_1 cup disappearing as early as five years. I_3 cups can linger as remnants and not disappear in some individuals until 12-15 years of age. Generally, however, cups are a useful indicator in the five to nine year age range.

Appearance of the Dental Star

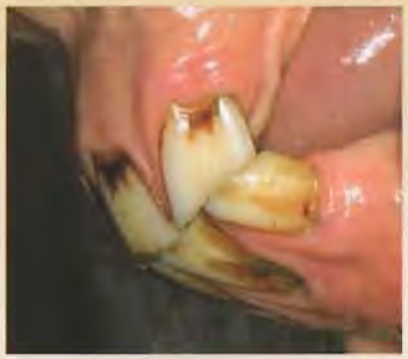


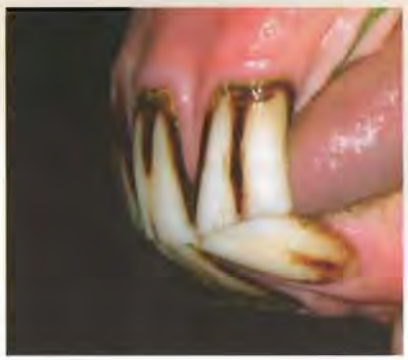
The dental star is secondary dentine that occludes the pulp cavity and appears as a yellow brown linear structure on the occlusal surface between the labial edge of the incisor and the "cup." Recent studies on aging suggests the dental star can appear in I_1 at five years, I_2 at six years and I_3 at seven to eight years. With age the dental star becomes oval and then round and moves toward the center of the tooth. The dental star becomes the only structure in the table surface of the centrals at 15-18 years of age.

Disappearance of the Enamel Ring (Mark)

The lower half of the infundibulum that is filled with cement is called the enamel ring or "mark." When the "cup" disappears the remaining enamel ring goes through shape changes similar to the changes in the occlusal surface of the incisors. These shapes change from oval (side to side) to triangular to round and vary a great deal between breeds. In the central incisor the shape of the "mark" changes from oval to round in the five to twelve year age range in most breeds. The disappearance of the "mark" is also highly variable, ranging from 12-18 years from the central incisor followed one to three years later in I_2 and I_3.

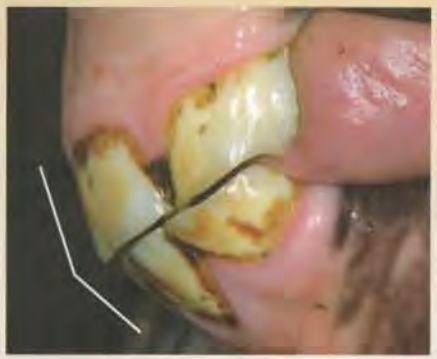
Appearance and Position of Galvayne's Groove

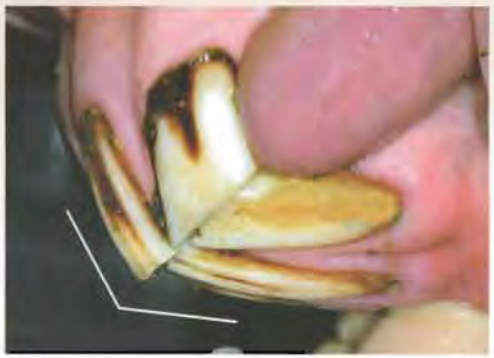




Galvayne's groove is described as a "longitudinal depression on the labial surface of the upper corner incisor." Cementum may remain in part or all of the groove and may or may not have a dark stain. The groove is said to first appear at the gumline at nine to ten years of age and extends the full length of the tooth at eighteen to twenty years of age. The presence of Galvayne's groove is variable and even when present the length in relation to the age of the horse may be inexact.

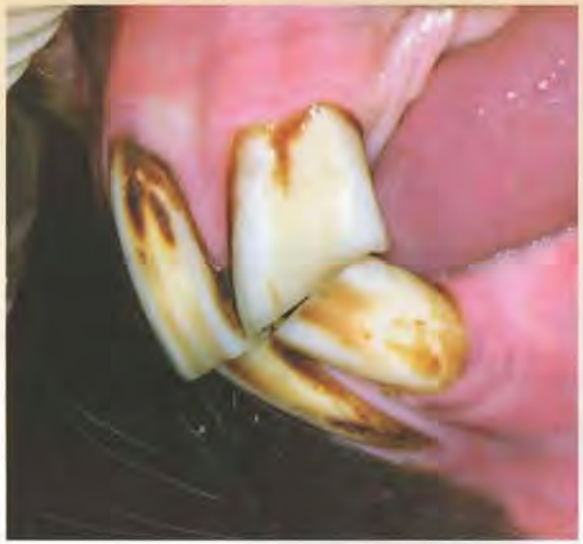
Changes in Direction of Upper and Lower Incisor Arcades





This indicator may only be useful in comparing a young horse to a very old horse. In profile the upper and lower arcades of a young horse are very close to a straight line (180°) from gum of the upper arcade to the occlusal surfaces and down to the gumline of the lower arcade. As aging occurs this angle becomes more acute (near 120° or less) and usually is significantly noticeable around twenty years of age. The lower arcade generally takes up the most oblique position first.

Upper Corner Incisor Hook



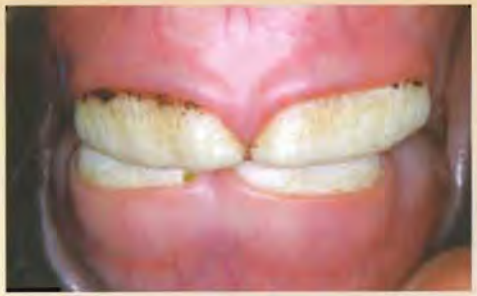
Historically the "hook" that is sometimes visible on the caudal border of the upper corner incisor was thought to occur at the age of seven years and again at 11-13 years. This hook represents a lack of wear on the caudal aspect of the upper tooth by the opposing lower incisor. The most reasonable explanation of the wide age range and highly inconsistent presence of this indicator is the changing obliquity of the incisors (see direction changes of incisors indicator). The inconsistent presence of this indicator dictate that it be considered too unreliable to be useful in aging.

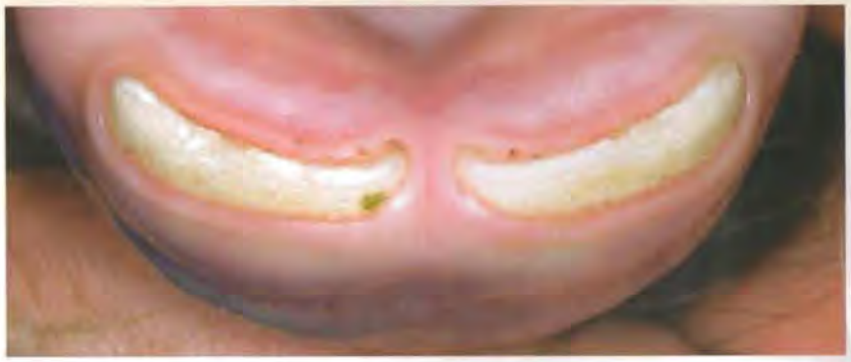
American Association of Equine Practitioners
GUIDE FOR DETERMINING THE AGE OF THE HORSE

Section II

Ages One Week to Twenty Years

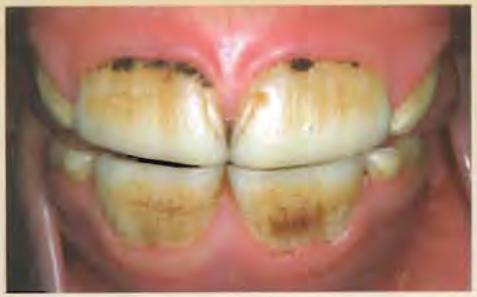
Birth to Two Weeks

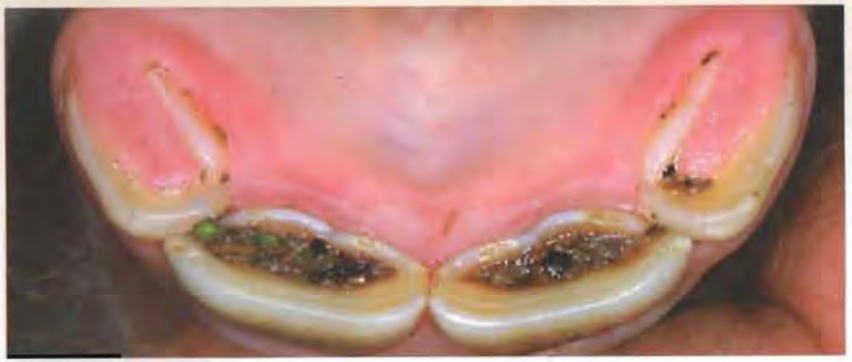




The deciduous central incisors (I_1) have erupted; the gum (gingiva) covers the other incisors. Viewed from in front, the labial border of the centrals is visible in both jaws. The dental table (masticatory or occlusal surface) shows the labial (anterior border) of the central incisors.

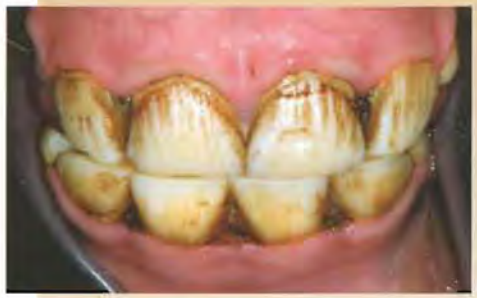
Four to Six Weeks

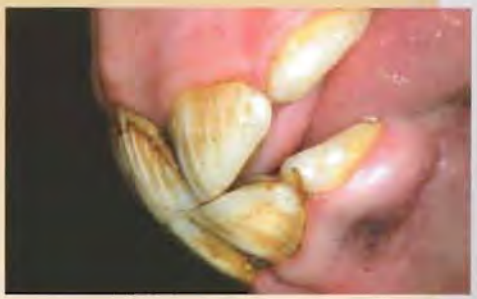


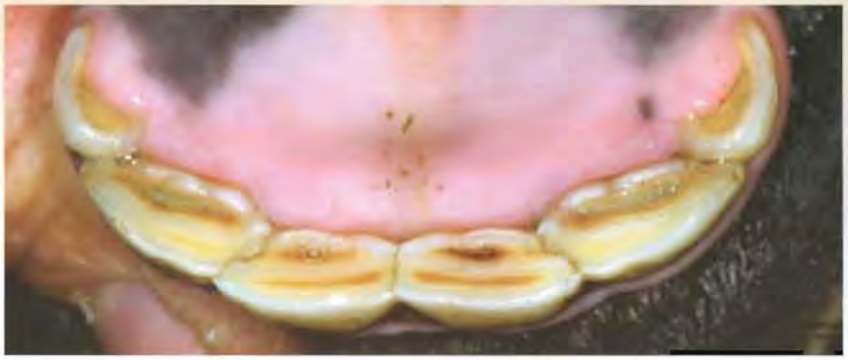


Viewed from in front, the deciduous centrals (I_1) are in contact, the lower with the upper (superior with the inferior). The labial surface of the crown presents delicate vertical ridges and grooves. The intermediates (I_2) have emerged through the gums. The dental tables of the centrals are in wear and show a definite cup in this individual. The intermediates are emerging through the gum with the labial edge showing the most exposure.

Six to Ten Months

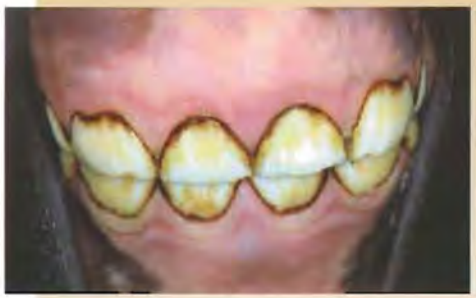


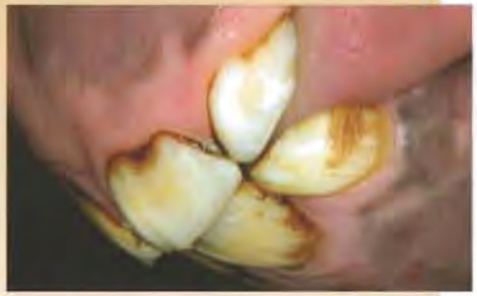


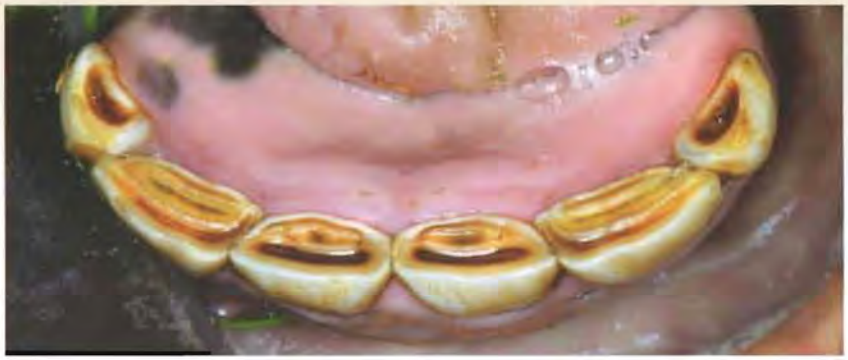


Viewed from in front, the central (I_1) and intermediate deciduous incisors (I_2) are in contact and the crown of each is fully exposed. In profile, the corner incisors (I_3) have emerged from the gums but are not in contact. The dental tables of the centrals and intermediates show wear; the cup is shallower in the centrals than in the intermediates in this individual.

One Year

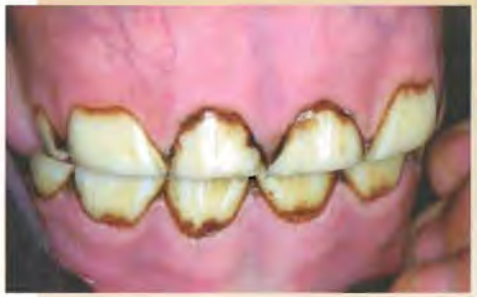


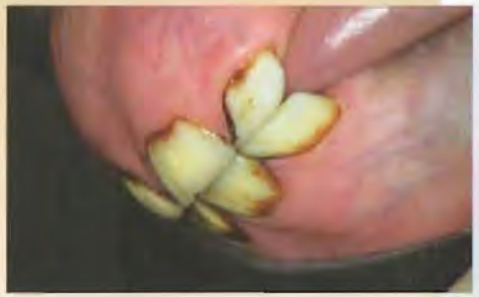


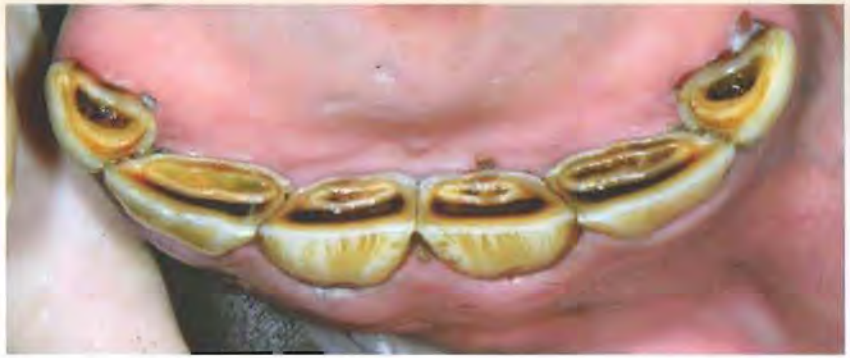


Viewed from in front, all deciduous incisors are visible, the crown of the centrals and intermediates is fully exposed. In profile, the upper and lower corner incisors are partially or completely in contact (depending on the time of year). The dental tables of the centrals show considerable wear. The dental star is seen usually in the centrals and intermediates as a dark or yellowish-brown transverse line in the dentin on the labial side of the infundibulum.

Two Years

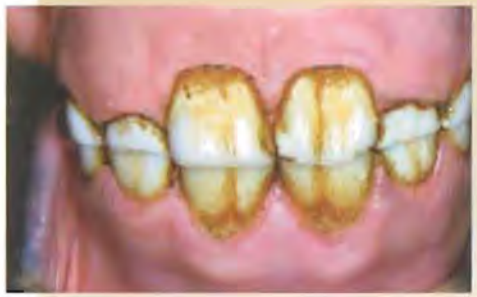


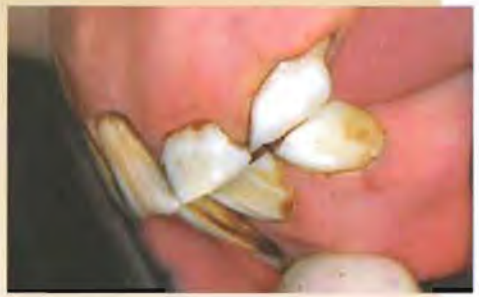


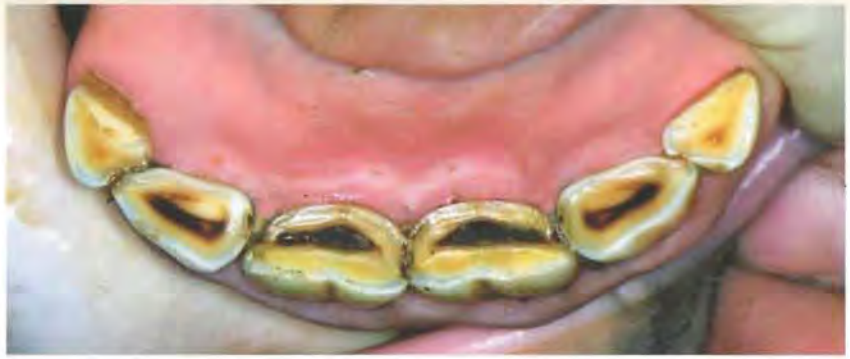


Viewed from in front, the central incisors are free from the gum and the neck may be visible (depending on time of year). In profile, the corners are in full wear. The dental tables of the lower incisors are smooth, the intermediates show decided wear and the corners are in full wear. The dental star is clearly visible in the lower centrals and intermediates.

Three Years

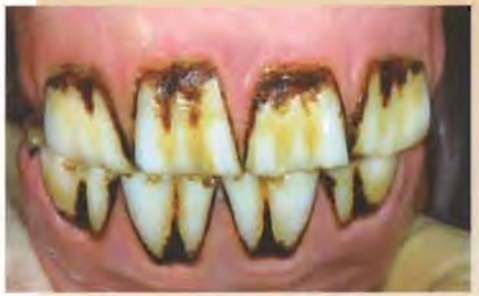


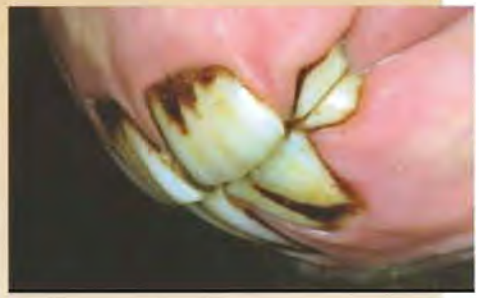


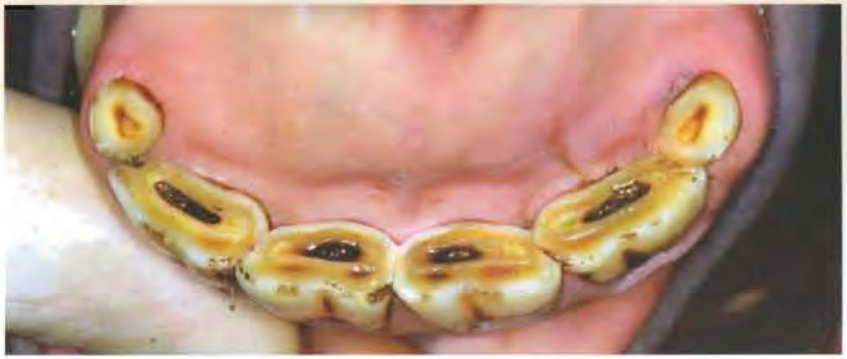


Viewed from in front, the four permanent central incisors are seen in full wear. They appear more solid, have vertical ridges and grooves and are larger than adjacent deciduous teeth. In profile, the deciduous intermediate may be inactive or show signs of being shed (depending on the time of year). The dental table of each central incisor has a deep cup and the borders of these teeth are sharp. The lower intermediates are deciduous in this individual and are smooth. The lower corners (deciduous) have little central enamel.

Four Years

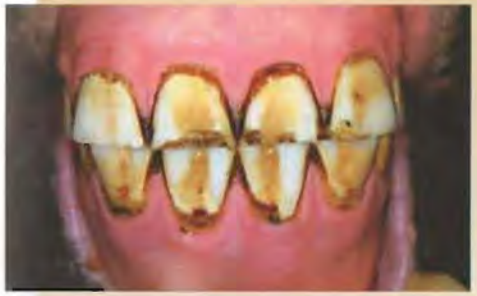


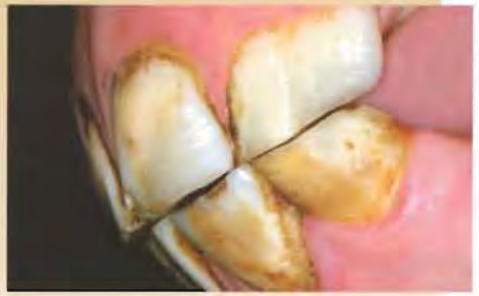


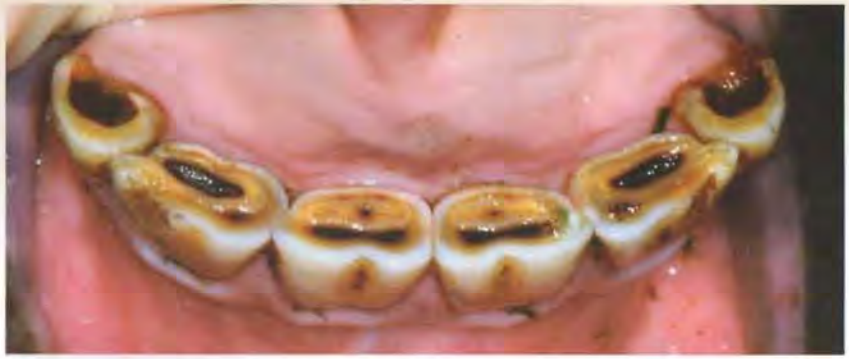


Viewed from in front, the permanent upper central and intermediate incisors are in contact with corresponding lower teeth. The jaws have acquired so much width for the centrals and intermediates that the deciduous corners can scarcely be seen. In profile, the corners (deciduous) appear small and may show signs of shedding (depending on the time of year). The dental tables of the centrals (permanent) show wear but their cups are deep. The intermediates are permanent and are in wear.

Five Years

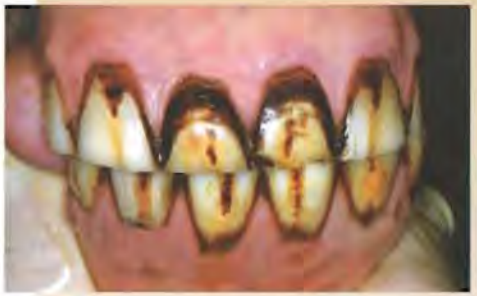


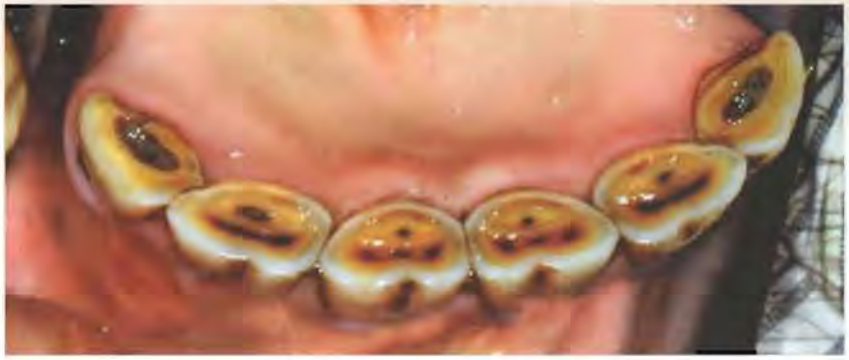




Permanent dentition is complete; all teeth are in wear. In profile the upper corner incisor is rectangular in shape (long side horizontal). The dental tables of the centrals and intermediates are wide transversely and show wear. Their cups are readily visible and completely encircled by the central enamel. The dental star is present labial to the cup on the centrals. The corners are beginning to wear at their labial border.

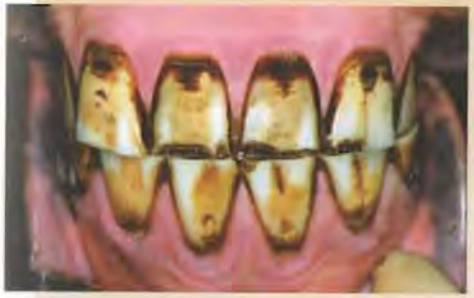
Six Years





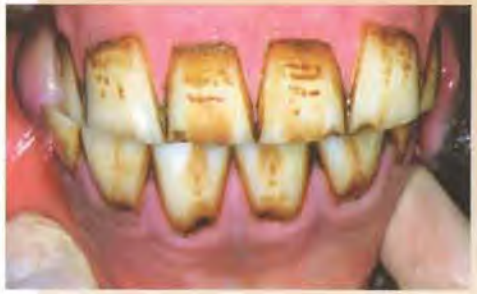
Viewed from in front, the jaws present the same features as at 5 years. The upper centrals are either larger or of a similar size to the intermediates. In profile, the upper corner is still wider than tall and may show a small hook, especially if no overbite is present. The incisive angle is at its least acute angle (approaches 180°). The dental tables of the lower centrals are usually smooth and not as wide transversely as at 5 years (tend to be oval). The surface of the intermediates may still show a cup (or remnant thereof) while the corners should have well defined cups that are in full wear. Dental stars are present in both centrals and intermediates in this individual. The enamel rings in the centrals are oval in shape.

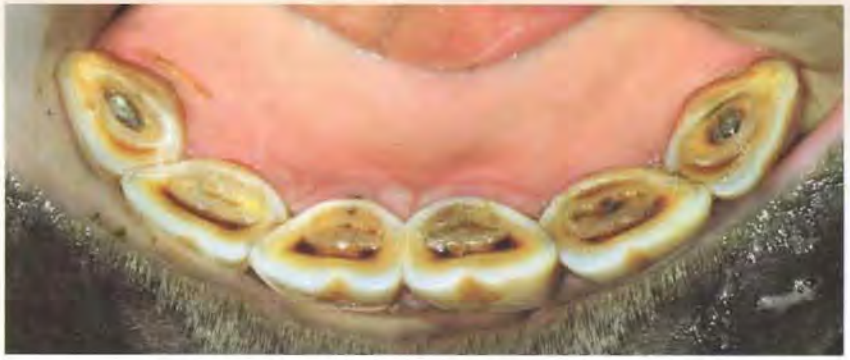
Seven Years



From in front no significant change is evident from the six-year-old mouth. The corner incisor on profile should still be wider than tall but may be approaching square. The dental tables of the centrals appear oval, while the enamel ring is somewhat triangular in this individual. The "white spot" in the dental star is visible. The intermediates show some cup present (usually worn down to enamel ring at this age). The surface of the corner shows a well defined cup that may take several years to completely disappear. The disappearance of the cups in the six- and seven-year-old examples demonstrate the normal viability between horses.

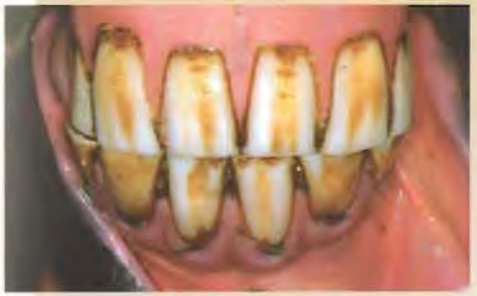
Eight Years

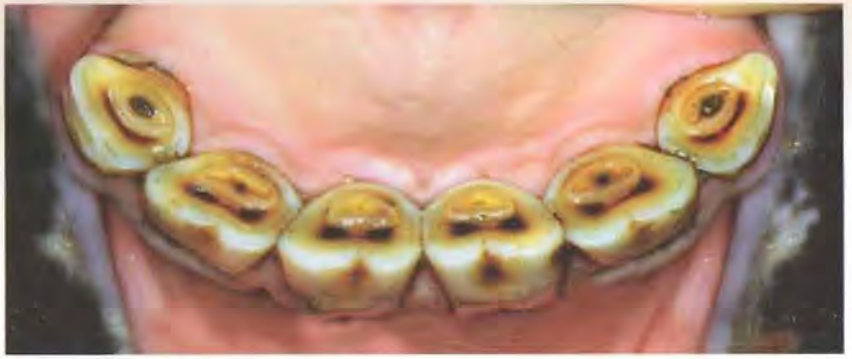




There is still no significant change in the front view from the previous two years. In profile, the upper corner may now begin to appear somewhat square. The lower dental tables are smooth and all cups will be gone (although remnants may remain, especially on the corners). Due to natural variation no differences in the dental stars or enamel rings may occur from the previous age.

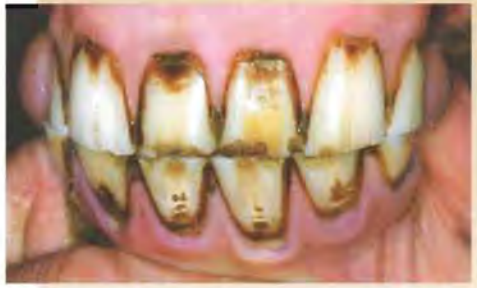
Nine Years

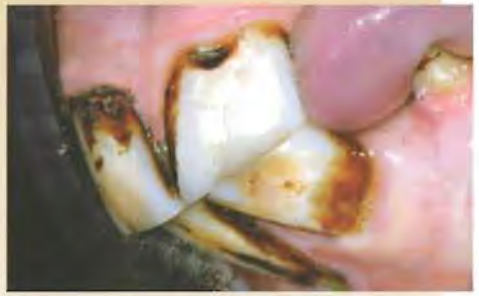


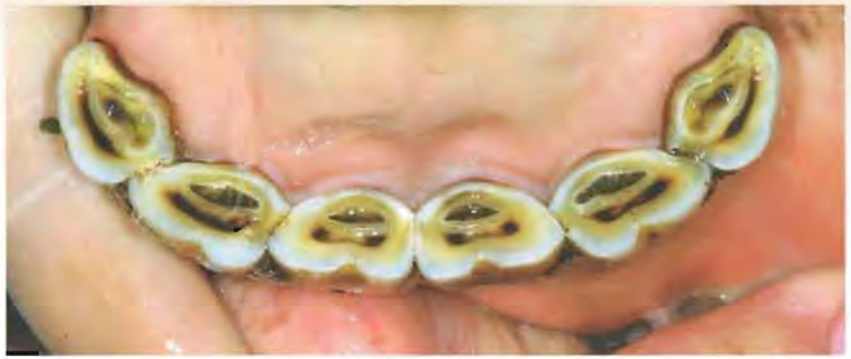


Viewed from in front the upper centrals will still be similar in size to larger than the adjacent intermediates. In profile, the upper corners will usually be somewhat square. The gum line (area where tooth emerges from gum) will start to lose its straight appearance and begin to drop down where Galvayne's groove will appear. The dental tables of the centrals are now round with the enamel rings triangular. All lowers in this individual show a dental star, with the centrals and intermediates having a "white spot" in the middle of the star. The corners show remnants of a cup in this individual.

Ten Years

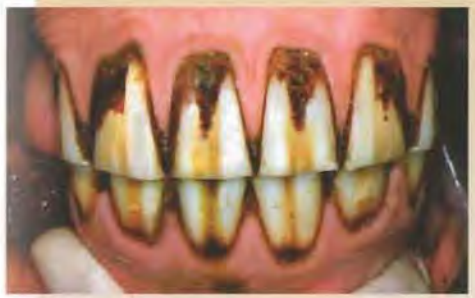


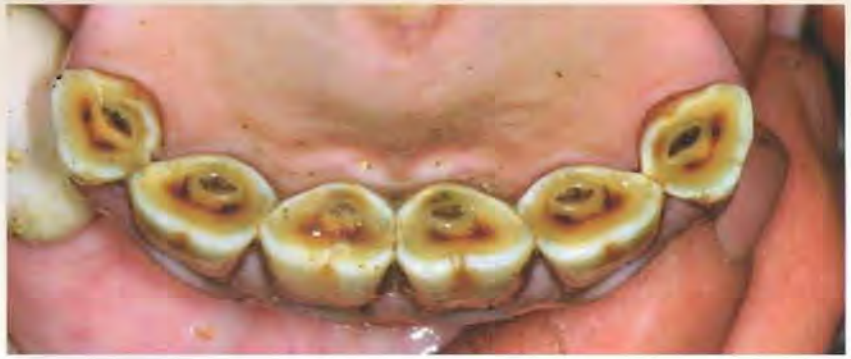




No change has occurred in the front view of the incisors. The upper corner on profile will be square and likely will show evidence of the beginning of Galvayne's groove. The dental tables of the centrals remain round while the dental star is shorter in length and appears to be moving more central in the tooth. This individual shows remnants of cups in all lower incisors at this age (could be attributed to a naturally occurring deeper cup).

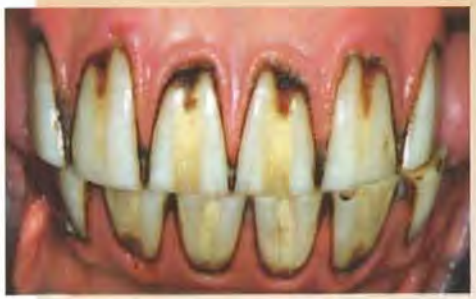
Eleven Years

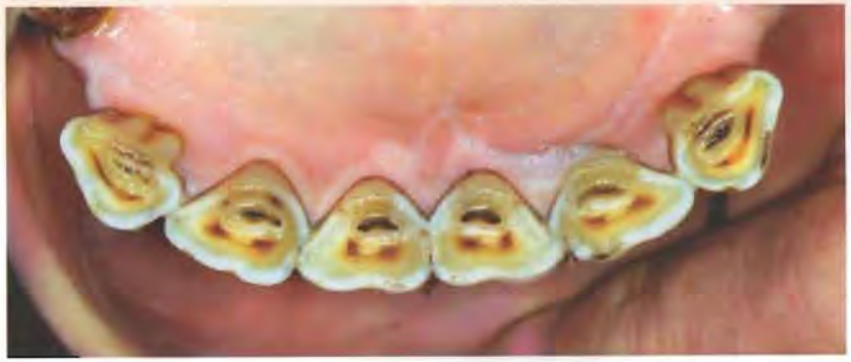




No obvious changes from the front view should occur at this age. In profile, the upper corner is still somewhat square or slightly taller than wide. The gum/tooth margin should show a v-effect where Galvayne's groove has started (see section on indicators). This individual has a distinct hook on the posterior ventral aspect of this tooth (also see indicators). The dental tables of the lower centrals are round. The central enamel of each lower incisor forms a small ring close to the lingual border; the dental stars are narrower transversely and near the center of the dental table.

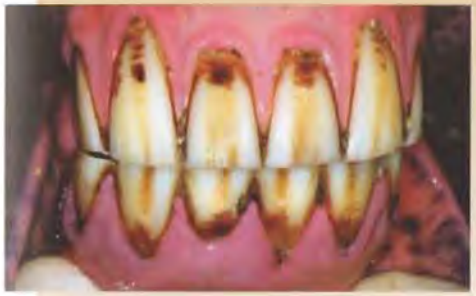
Twelve Years

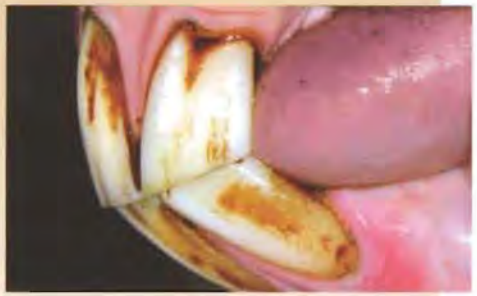


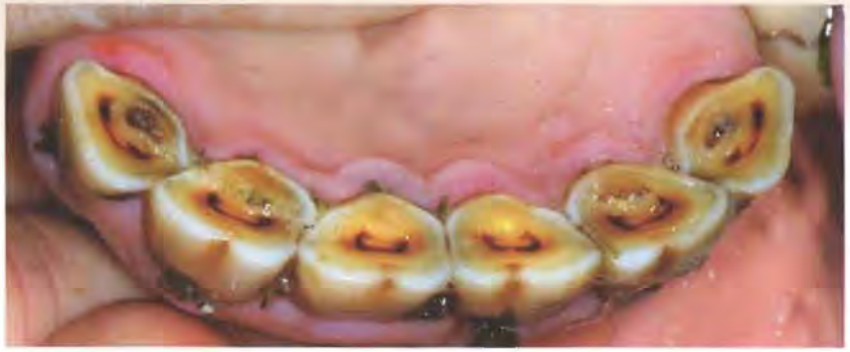


This individual's centrals appear slightly shorter than the adjacent intermediates when viewed from in front. In profile, the upper corner should be slightly taller than wide and have evidence of a Galvayne's groove at its apex. The dental tables of the centrals should be round to triangular. The central enamel may be disappearing and the dental star is seen as a darker stained area of secondary dentine near the center of the tooth.

Thirteen Years

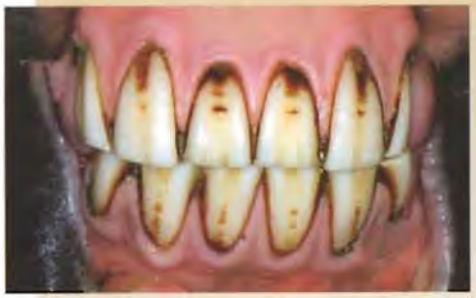


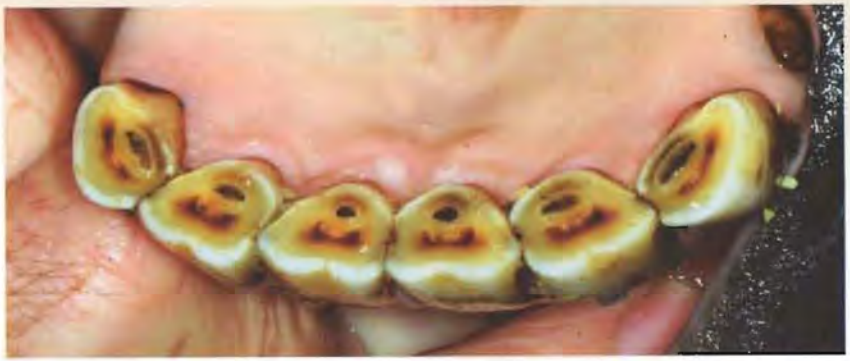




Viewed from in front, the appearance is similar to that of 12 years. Many individuals at this age begin to exhibit a shrinking of the size of the upper centrals as compared to the intermediates. In profile, the upper corner is definitely taller than wide with a Galvayne's groove extending approximately $1/3$ down from the apex (see indicators for accuracy). The dental tables of the lower centrals resemble a triangle in shape. The central enamel should be disappearing from the centrals. The dental star is similar to age 12. Remnants of cups are still evident in the corners of this individual.

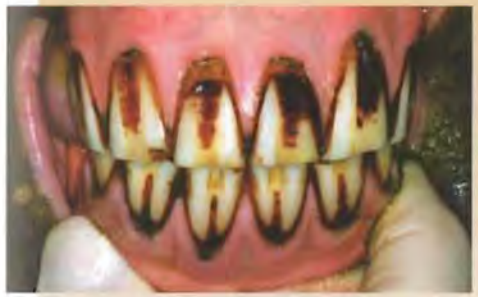
Fourteen Years

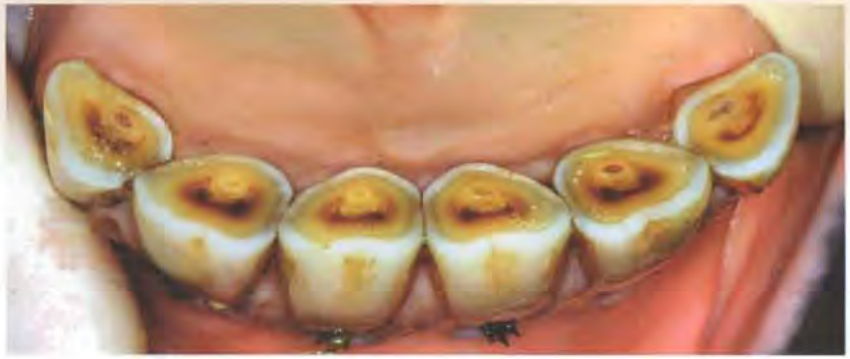




Changes in all views become gradual and more variable as horses age through the next five to seven years which affects accuracy negatively. From in front the upper centrals usually are now shorter. In profile, the upper corner may resemble age 13 but should be slightly taller and may have a Galvayne's groove that is near halfway down the labial surface. The dental tables may be unchanged from age 13. This individual appears to have remnants of cups in all six lower incisors.

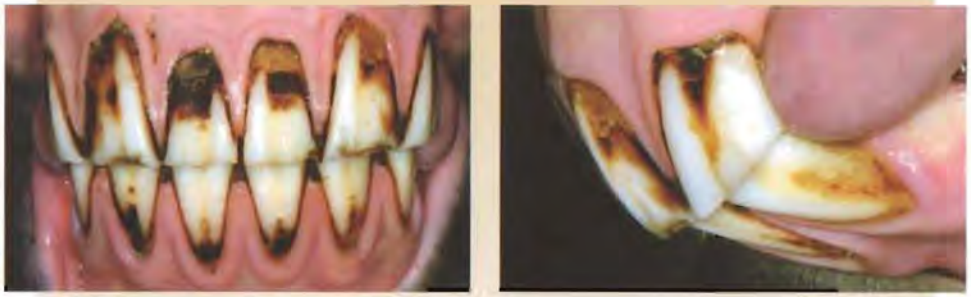
Fifteen Years

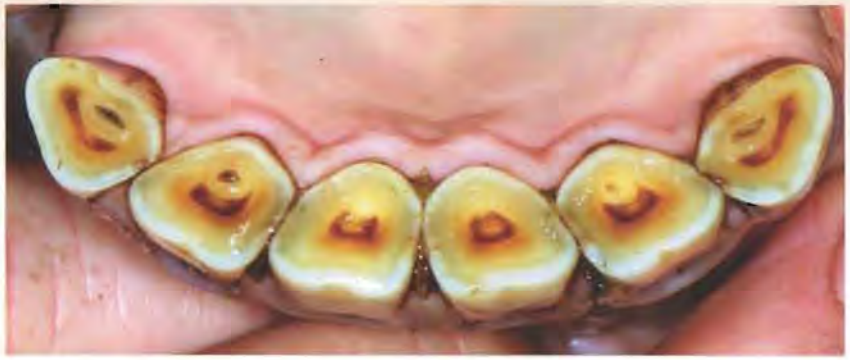




Viewed from in front all the lower incisors may appear shorter than the uppers. The upper centrals will usually be smaller but not yet half the height of the intermediates. In profile, the upper corner is taller-than-wide with a Galvayne's groove that is somewhere near halfway down the tooth (variable). The shape of the dental tables of the lower central incisors should have a triangular appearance. The intermediates are round to triangular and the dental star is taking a central position in the lower central incisor.

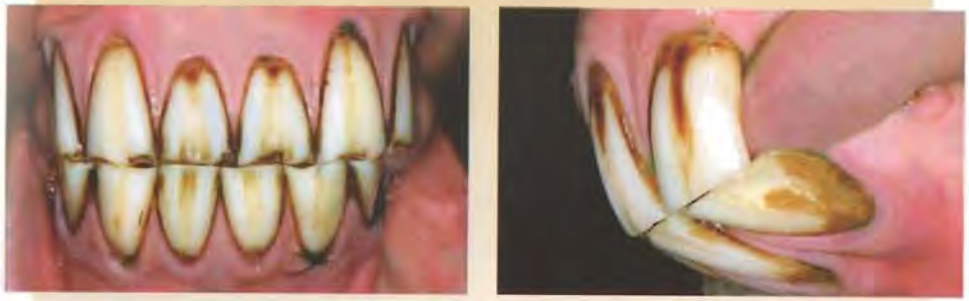
Sixteen Years

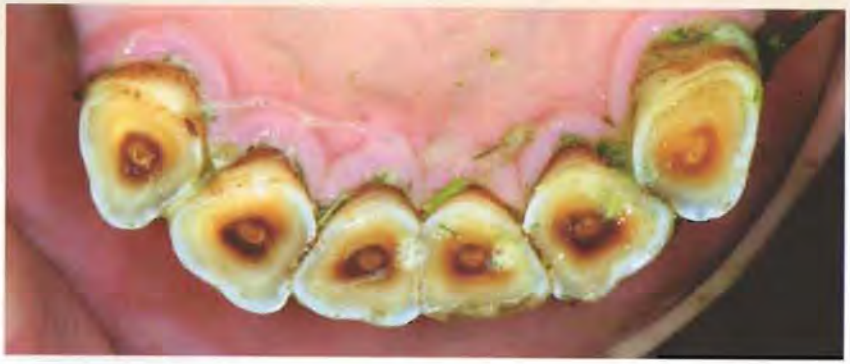




From in front, this individual's lower incisors are smaller than the uppers and have a significant space between each tooth (aging change). In profile the incisive angle should begin to drift toward a less than 180° angle. As the upper corner becomes taller it may appear narrower (front to back) with increasing age. Galvayne's groove is highly variable but should extend past the mid-point of the corner. The surface of all lower dental tables will generally lack color except for the centrally located dental star. The dental star gradually replaces the enamel ring from central to corner incisor.

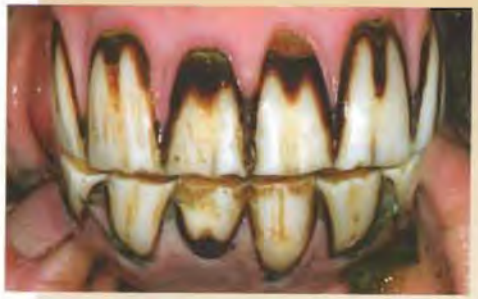
Seventeen Years

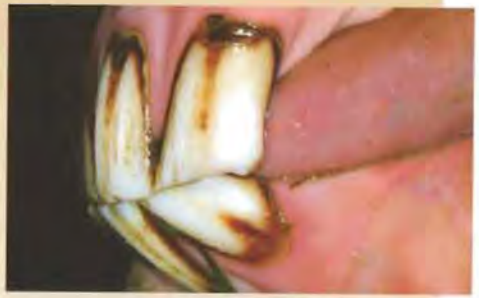


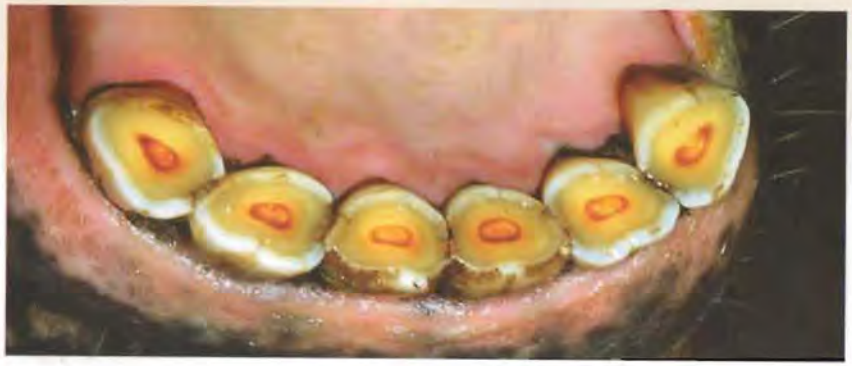


Viewed from in front, the upper centrals are definitely shorter than the intermediates. In profile, the upper corner is taller than wide and Galvayne's groove (if evident) should extend about $^{3}/_{4}$ of the way down the tooth. The dental tables of the lower centrals and intermediates should appear triangular to biangular (see Indicators section). Each dental star is round and near the center of the tooth. Teeth may begin to appear more widely spaced (not evident on this individual).

Eighteen Years

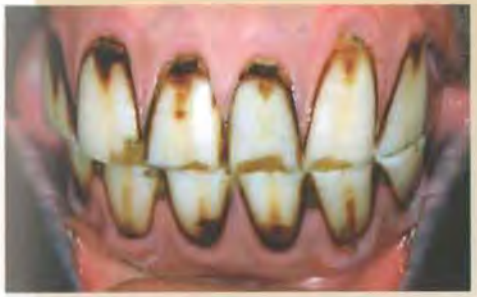


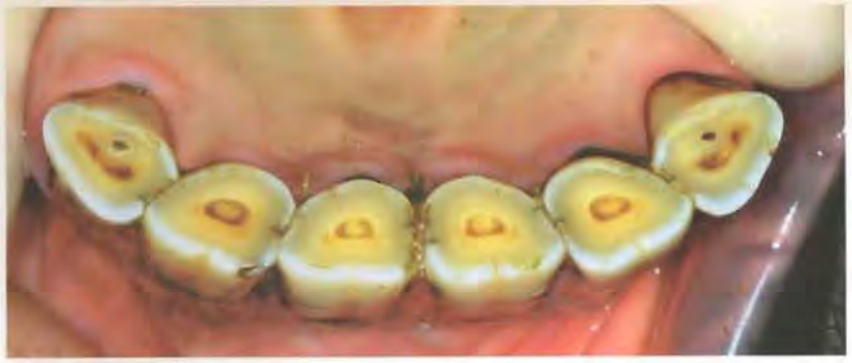




Changes in all indicators in the ages 15 to 20 will be gradual causing age estimation to be less accurate than in ages under ten. Viewed from in front, the upper centrals are smaller than the adjacent intermediates. In profile, the upper corner is tall with a Galvayne's groove that is past halfway and approaching the table surface. The dental tables are similar to the 17-year-old (usually exhibit minimal color) and show a single centrally located dental star.

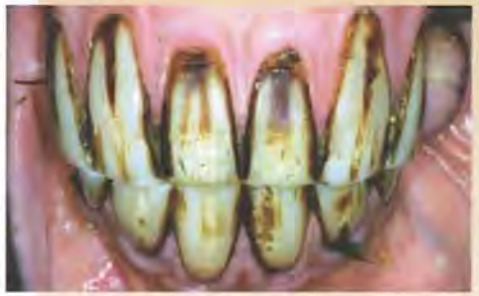
Nineteen Years





The front and profile views will be similar to the 18-year-old. The most useful changes in the indicators may be in Galvayne's groove and the shape of the dental tables. The groove should extend nearly the full length of the corner tooth (may or may not have color). The dental tables of the centrals will no longer appear triangular but will have a more biangular (long lingual to labial) shape.

Twenty Years



Viewed from in front, the upper centrals should be obviously smaller than the intermediates. In profile, the upper corner tooth is tall with a Galvayne's groove extending the full length of the tooth. The incisive angle will be much less than 180° (see Indicators section). The dental tables of the lower incisors will have little or no color and the centrals will be oval to biangular in shape (labial to lingual). A single round shaped dental star will occupy the center of the tooth.

Glossary of Terms

Cup – The dark or dark-brown to black cavity in the infundibulum surrounded by enamel ring.

Deciduous Teeth – Temporary, fetal, milk or baby teeth. They are characterized primarily by their smaller size, constricted neck, and shallow cup.

Dental Star – The darker dentin that fills the pulp cavity as the tooth wears. It is dark yellow to yellowish-brown.

Dental Table – The table, masticatory or occlusal surface.

Eruption – Pertains to the period when a tooth breaks through the gum.

Galvayne's Groove – The longitudinal depression on the labial surface of the upper corner (I_3) incisor. The cementum remains in the groove as a dark line; the rest of the surface is worn to expose the white enamel.

Incisor Teeth – Starting at the midline incisors are designated as centrals (I_1), intermediates (I_2) and corners (I_3).

Infundibulum – The deep invagination of enamel which is filled with a variable amount of cement. Commonly referred to as the "cup."

Labial Surface – Surface toward the lips.

Lingual Surface – Surface toward the tongue.

Permanent Teeth – Second dentition or adult teeth.