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Brucellosis in Cervidae:

Uniform Methods and Rules, Effective September 30, 2003

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Contents

Introduction **5**

Part I **Definitions** **6**
Accredited veterinarian
Adjacent herd
Affected herd
Animals
Approved laboratory
Area Veterinarian-in-Charge (AVIC)
Brucellosis
Brucellosis-exposed animals
Brucellosis-Monitored cervid herd
Brucellosis-negative animals
Brucellosis reactor
Brucellosis suspect
Certificate
Certified Brucellosis-Free cervid herd
Cervidae
Cervid dealer
Cervid herd
Cervid Surveillance Identification (CSI) Program
Chief staff veterinarian
Cooperative State–Federal Cervid Brucellosis Program
Designated brucellosis epidemiologist
Deputy Administrator
Epidemiologically traced herd
Herd
Herd test
Herd of origin
Individual herd plan
Official brand inspection certificate
Official identification
Onsite test
Permit
Quarantine
State
State animal health official
States known to be affected
Test-eligible animal
Traceback
Veterinary Services
Veterinary Services regional epidemiologist

Part II **Administrative Procedures** **10**
A. Supervision of the Cervid Brucellosis Program
B. Entering Premises
C. Providing Services to Livestock Owners
D. Reporting Brucellosis Activities
E. Notifying the Community About Affected Herds

F. Dealers
G. Appointing Designated Brucellosis Epidemiologists

Part III **Surveillance Procedures** 11
A. Testing Requirements
B. Identifying Tested Animals
C. Test Records

Part IV **Diagnostic Procedures** 12
A. Diagnostic Reagents
B. Laboratories
C. Onsite Testing
D. Serologic Classification
E. Other Diagnostic Tests

Part V **Epidemiologic Procedures** 15
A. Responsibilities of a Designated Brucellosis Epidemiologist
B. Traceback of CSI Reactors
C. Investigation Following CSI Traceback

Part VI **Affected Herd Procedures** 16
A. Quarantine
B. Testing and Quarantine Release
C. Calves or Fawns From Affected Herds
D. Individual Herd Plan
E. Retesting Reactors
F. Herd Depopulation
G. Cleaning and Disinfection

Part VII **Animal Movement** 18
A. Interstate Movement
B. Movement to Markets and Slaughter
C. Movement From Quarantined Herds or Premises
D. Permits

Part VIII **Certified Brucellosis-Free Cervid Herds** 20
A. Qualifying Methods
B. Conditions

Part IX **Brucellosis-Monitored Cervid Herds** 22
A. Identification
B. Testing
C. Movement
D. Conditions

Appendix 23
Table 4. Number of cervids needed to test to obtain a 95 percent probability of detecting one or more infected cervids with a 2 percent cervid infection rate

Introduction

This Uniform Methods and Rules (UM&R) provides minimum program standards and procedures of the Cooperative State–Federal Cervid Brucellosis Program to eradicate and monitor brucellosis in farm or ranch-raised Cervidae. Content was approved by the U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Veterinary Services (VS), incorporating recommendations from the State animal health authorities, industry representatives, and the United States Animal Health Association. This UM&R may be amended in the future by replacing pages or by adding new pages.

Part I—Definitions

Accredited veterinarian	A veterinarian approved by the Deputy Administrator of Veterinary Services (VS), Animal and Plant Health Inspection Service (APHIS), United States Department of Agriculture (USDA), in accordance with provisions of Title 9, Code of Federal Regulations (CFR), Part 161, to perform certain functions of Federal and cooperative State–Federal animal disease control programs
Adjacent herd	1. A herd of Cervidae, cattle, bison, and/or other hoofed livestock susceptible to *Brucella* occupying a premises that borders or is within at least 1 mile of an affected herd, including herds separated by roads or streams or prominent geographical features, or 2. A herd of Cervidae, cattle, bison, and/or other hoofed livestock susceptible to *Brucella* occupying a premises that was previously occupied by an affected herd within a period of time determined by the designated brucellosis epidemiologist
Affected herd	A herd in which any animal has been classified as a brucellosis reactor and which has not completed the required tests prescribed by this UM&R for release from quarantine
Animals	Cervidae, cattle, bison or other hoofed livestock that are susceptible to *Brucella*
Approved laboratory	A State or Federal veterinary diagnostic laboratory for brucellosis testing that must be approved by USDA, APHIS, VS, and State animal health authorities
Approved quarantine facility	A confined facility that is designated to control the movement of free-roaming cattle, bison, or Cervidae until such time as each animal held in the facility has been determined by the Deputy Administrator of VS to be free of brucellosis or has been moved to slaughter
Area Veterinarian-in-Charge (AVIC)	The official of VS, APHIS, USDA, who is assigned by the VS Deputy Administrator to supervise and perform the official animal health work of APHIS in the State or States concerned
Brucellosis	An infectious disease of animals and humans caused by bacteria of the genus *Brucella*
Brucellosis-exposed animals	Animals, other than reactors, that are either part of an affected herd, or for which epidemiologic investigation indicates contact with brucellosis reactors.
Brucellosis-Monitored cervid herd	A herd raised under range conditions in which sufficient numbers of sexually intact animals 6 months of age and older have been tested to provide a 95-percent probability of detecting a 2-percent brucellosis prevalence in the herd
Brucellosis-negative animal	An animal for which laboratory test results fail to disclose evidence of *Brucella* infection
Brucellosis reactor	An animal diagnosed as infected with *Brucella* based on laboratory results, clinical signs, and/or epidemiologic investigation

Brucellosis suspect	An animal for which laboratory test results are inconclusive but suggest *Brucella* infection
Certificate	An official document that is issued by a State or Federal animal health official or an accredited veterinarian at the point of origin of an animal movement. It provides information on the individual identification of the animals, the number of animals covered by the document, test results, the purpose of the movement, the points of origin and destination, the consignor, and the consignee.
Certified Brucellosis-Free cervid herd	A herd of Cervidae that has qualified for and has been issued a Certified Brucellosis-Free Cervid Herd certificate signed by both the State animal health official and the APHIS AVIC
Cervidae	Deer, elk, moose, caribou and related species in the Cervidae family, raised under confinement or agricultural conditions for the production of meat or other agricultural products or for sport or exhibition, and free-ranging Cervidae when they are captured for any purpose
Cervid dealer	1. Any person who engages in the business of buying and/or selling cervids in commerce, either for his or her own account or as an employee or agent of the buyer or seller; or 2. Any person who engages in the business of buying and/or selling cervids in commerce on a commission basis The term "dealer" does not include any person who buys or sells cervids as part of his or her own bona fide breeding operation; who receives cervids exclusively for immediate slaughter on his or her own premises; or who does not engage in the business of buying, selling, trading, or negotiating the transfer of cervids except for his or her own account and not for resale within 120 days.
Cervid herd	A herd that contains one or more animals of any cervid species
Cervid Surveillance Identification (CSI) Program	A brucellosis surveillance program requiring proper identification and blood testing of test-eligible animals moving interstate, to auction markets, or to slaughter. Other surveillance procedures such as collection of blood samples from hunted animals may be included at the States' discretion.
Chief Staff Veterinarian, National Animal Health Programs	The veterinarian in VS, APHIS, USDA, who is responsible for staff and field support of Federal activities associated with the Cooperative State–Federal Cervid Brucellosis Program

Cooperative State–Federal Cervid Brucellosis Program	The Cooperative State–Federal Cervid Brucellosis Program, also referred to as the Brucellosis Program or simply the Program, administered under a memorandum of understanding between the appropriate agency in each of the States and USDA. This Program includes all of the activities associated with detecting, controlling, and eliminating brucellosis from Cervidae in the United States. The minimum standards for operating a Cooperative State–Federal Cervidae Brucellosis Eradication Program within a State are contained in this publication (APHIS 91–45–12), "Brucellosis in Cervidae: Uniform Methods and Rules."
Designated brucellosis epidemiologist	A State or Federal veterinarian who has demonstrated the knowledge and ability to perform the functions required under this UM&R and who has been selected by the State animal health official and the APHIS AVIC. The VS regional brucellosis epidemiologist and the VS national brucellosis epidemiologist of the National Animal Health Programs staff must also concur with the selection before the individual is approved.
Deputy Administrator	The Deputy Administrator of VS, APHIS, USDA, or any other VS official to whom appropriate authority has been delegated.
Herd	A group of animals maintained on common ground or a group of animals geographically separated but under common ownership or supervision
Herd test	An official brucellosis blood test of all test-eligible animals in a herd
Herd of origin	A herd, or any farm or other premises, where an animal was born or kept for at least 4 months before shipping. For the purposes of this UM&R, herd of origin has the same meaning as place of origin, premises of origin, and farm of origin.
Individual herd plan	A written herd-management and testing plan that is designed by the herd owner, the owner's veterinarian if requested, and a State or Federal veterinarian, to identify and eradicate brucellosis from an affected, adjacent, or epidemiologically traced herd.
Official brand inspection certificate	A certificate issued by an official brand inspection agency in any State in which these certificates are required for moving cervids.
Official cervid identification	A VS-approved eartag or other VS-approved identification device that conforms to the alphanumeric National Uniform Eartagging System and uniquely and permanently identifies the animal. All official identification is to be placed in the right ear unless otherwise specified by the Deputy Administrator.
Official test	An approved brucellosis blood test conducted at an official laboratory to support the classification of Cervidae as brucellosis-negative, suspect, or reactor
Onsite test	Blood testing under field conditions to provisionally classify animals as brucellosis-negative, suspect, or reactor. It may serve as a supplement to approved tests in classifying brucellosis suspects and reactors.

Permit	An official document that is issued by a State or Federal animal health official or an accredited veterinarian for movement of reactor, suspect, and exposed animals (does not include entry permits).
Quarantine	An imposed restriction prohibiting movement of brucellosis reactor, suspect, or exposed animals to any location without specific written permits
State	Any State of the United States, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, or Guam
State animal health official	The State official responsible for animal disease control and eradication programs
Test-eligible animal	All Cervidae 1 year of age or older
Traceback	The process of identifying the herd of origin of CSI reactors, including herds that were sold for slaughter
Veterinary Services (VS)	The division of USDA's Animal and Plant Health Inspection Service that directs Federal animal health programs within the United States
VS regional epidemiologist	A Federal veterinarian with USDA, APHIS, VS, who is assigned to supervise the Program in all States within a VS region

Part II—Administrative Procedures

A. Supervision of the Cervid Brucellosis Program

Routine supervision will be provided by full-time animal health veterinarians employed by the State or Federal Government.

B. Entering Premises

Persons working in the Program must be authorized by the State to enter premises to carry out Program activities. While on those premises, they must use appropriate sanitary procedures to minimize the risk of disease transmission to other premises.

C. Providing Services to Herd Owners

Program services may be rendered without expense to the herd owner; however, owners are responsible for assembling, handling, and restraining animals. Program administrators may contract with accredited veterinarians, paraprofessionals, other State and Federal agencies, or privately owned firms, as needed, to assist State and Federal animal health personnel in performing Program activities.

D. Reporting Brucellosis Activities

All brucellosis activities that are conducted privately, or under agreements with Program officials—such as performing vaccinations or serologic tests for brucellosis—must be reported immediately to cooperating agencies and to the herd owner.

E. Notifying the Community About Affected Herds

Program officials will notify animal owners within a radius determined by the designated brucellosis epidemiologist when any herd is placed under quarantine for brucellosis. Owners should be notified by letter within 30 days of the quarantine date. Owners should also be notified by letter within 30 days following the quarantine release date.

F. Cervid Dealers

1. *Registration*—It is recommended that State animal health agencies have the authority to officially register or license cervid dealers and to deny, suspend, or cancel the registration or license for due cause.

2. *Recordkeeping*—Each registered or licensed cervid dealer must maintain records on all animal transactions, including trades and transfers. Records must include individual cervid identification and other information sufficient for traceback of individuals to herd(s) of origin. These records must be maintained for a minimum period of 2 years.

3. *Enforcement*—If the State has authority to officially register or license cervid dealers, provisions must exist for State animal health officials to institute legal action to enforce compliance with cervid dealer registration and recordkeeping requirements of this UM&R.

G. Appointing Designated Brucellosis Epidemiologists

In each State, a designated brucellosis epidemiologist will be selected by the State animal health official and the APHIS AVIC and approved by the VS regional epidemiologist and the VS national brucellosis epidemiologist of the National Animal Health Programs staff. Only persons with the prerequisite brucellosis epidemiology training, experience, and interest will be approved.

Part III—Surveillance Procedures

A. Testing Requirements

1. Cervid surveillance identification (CSI) tests

   a. Interstate movement test—Animals originating from Certified Brucellosis-Free cervid herds do not require testing for interstate movement. All sexually intact animals 6 months of age or older from Brucellosis-Monitored cervid herds must test negative for brucellosis within 90 days prior to interstate movement. All other sexually intact animals 6 months of age or older must be tested for brucellosis within 30 days prior to interstate movement. Retesting is recommended at about 90 days after movement to the new premises.

   b. Slaughter establishment test—All test-eligible animals will be blood-sampled at slaughter and tested for brucellosis.

B. Identifying Tested Animals

1. *CSI tests*—All animals tested under CSI program requirements must be officially identified.

2. *Herd tests*—All animals included in a herd blood test, or tests of monitored herds, must be officially identified at the time of blood collection.

C. Test Records

Brucellosis test records must be completed on each animal blood-sampled for brucellosis and sent with the sample to the approved laboratory. The records must individually identify each animal, its location, the name and address of the owner, and its sex, age, and vaccination status.

Part IV—Diagnostic Procedures

A. Diagnostic Reagents

Brucella antigens used for diagnosing or detecting brucellosis will be distributed only to State and Federal animal health officials or to accredited veterinarians who have been approved by State and Federal Program officials to conduct brucellosis testing.

B. Laboratories

Each laboratory must have the capability to conduct a minimum of three official brucellosis laboratory tests. Test results must be reported to State and Federal animal health officials.

The following tests have been designated as official brucellosis laboratory tests in Cervidae:

a. Card test,
b. Standard plate agglutination test (SPT),
c. Complement-fixation (CF) test, and
d. Rivanol test.

Laboratories must also be able to isolate *Brucella* from milk, blood, and tissues, or have procedures in place for forwarding these samples to another approved laboratory for *Brucella* isolation. Each approved laboratory must be evaluated by the VS regional epidemiologist at least once every 3 years.

C. Onsite Testing

Samples may be tested for brucellosis outside of approved laboratories by persons authorized to conduct approved laboratory tests.

Authorized persons conducting onsite tests will be continually monitored by the confirming approved laboratory and formally evaluated annually by the designated brucellosis epidemiologist.

D. Serologic Classification

1. *Onsite*—A cervid may be provisionally classified as negative, suspect, or reactor based on the results of onsite testing. Standard serologic criteria for onsite cervid classification as brucellosis negative, suspect, or reactor are described in tables 1–3. However, all samples must be promptly submitted to the official State or regional brucellosis laboratory for confirmation. Animals that have been provisionally classified as brucellosis reactors or suspects or that have been exposed to those animals must not be moved until test confirmation is received.

   Animals that test positive for brucellosis during interstate movement tests or tests at auctions will be quarantined until confirmation is received.

   Animals that test positive for brucellosis during affected herd retests may be tagged and branded as reactors prior to receiving laboratory confirmation of their status.

2. *Laboratory*—The following interpretations must be used to classify an animal based on official brucellosis testing. Variations from these interpretations can be made only by a designated brucellosis epidemiologist based on additional testing and epidemiologic information.

   a. Card test—Test results are recorded as either negative or positive. An animal is considered a reactor when the card test is the only test conducted and the test is positive. An animal is considered a suspect when the card test is positive but supplemental tests support a suspect classification.

   b. Standard plate agglutination (SPT) test—The blood titers of Cervidae tested by the SPT method are interpreted in table 1.

Table 1—Interpretation of standard plate agglutination test (SPT) results

Test results			
1:50	1:100	1:200	Test interpretation
–	–	–	Negative
I	I	–	Suspect
I	–	–	Suspect
+	–	–	Suspect
+	I	–	Suspect
+	+	–	Reactor
+	+	I	Reactor
+	+	+	Reactor

Key: – = no agglutination; I = incomplete agglutination; + = complete agglutination.

   c. *Manual complement fixation (CF) test*—The manual CF test is interpreted in table 2.

Table 2—Interpretation of manual complement-fixation test results

Test results	Test interpretation
1+ 1:10 or lower	Negative
2+ 1:10, but less than 2+ 1:20	Suspect
2+ 1:20 or higher	Reactor

Key to degree of fixation of complement: 1+ = 25 percent, 2+ = 50 percent, 3+ = 75 percent, 4+ = 100 percent.

d. Rivanol test—Test results are interpreted in table 3.

Table 3—Interpretation of rivanol test results

Test results	Test interpretation
I 1:25 or lower	Negative
Not applicable	Suspect
+ 1:25 or higher	Reactor

Key: I = incomplete agglutination; + = complete agglutination.

E. Other Diagnostic Tests

Infection with *Brucella* may also be identified or confirmed in an approved laboratory by bacteriologic cultivation and isolation of *Brucella* from tissues, secretions, or excretions.

F. Other Supplemental Tests

Supplemental tests are other tests that have been developed to aid in determining the presence of *Brucella*. These tests may be added as they are validated by USDA, APHIS for use in Cervidae.

Part V—Epidemiologic Procedures

A. Responsibilities of a Designated Brucellosis Epidemiologist

The designated brucellosis epidemiologist is responsible for the following activities:

1. *Test interpretation and classification*

   a. To evaluate the titer responses for all Cervidae, taking into consideration the animal and herd history and other epidemiologic factors affecting the classification. The designated brucellosis epidemiologist has authority to deviate from standard classifications (see Part IV, sec. D) when epidemiologic investigation supports such action.

   b. To determine the final classification of Cervidae that were initially classified as reactors, following a complete epidemiologic investigation of the herd.

   c. To evaluate test results on CSI suspects that were returned to the herd of origin under quarantine.

2. *Epidemiologic investigation and evaluation*—To determine appropriate activities in adjacent herds and other herds having contact or exchanges with an affected herd.

3. *Approval of individual herd plans*

4. *Continued surveillance of suspicious herds*—Where an initial herd blood test was negative but further evaluation is indicated

B. Traceback of CSI Test Reactors

All CSI reactors and exposed animals will be traced back to the herd(s) of origin. A traceback can be considered successful when all possible herds of origin are located and the herds are tested when necessary. All sales of herds and animals to slaughter must be verified.

C. Investigation Following CSI Traceback

1. *Herd of origin*—All herds of origin will be investigated. If investigation suggests infection, the herd will be quarantined, and a negative herd test will be required before the quarantine can be released. If herd testing results in classification as an affected herd by the designated brucellosis epidemiologist, the provisions of Part VI will apply. When a herd blood test is not performed, a State or Federal animal health representative will prepare a statement indicating that the findings of the epidemiologic investigation were discussed with the owner or the owner's representative and will include a list of the reasons the herd was not tested.

2. *Adjacent herds and epidemiologically traced herds*—All adjacent herds and other herds having contact or exchanges with an affected herd will be identified and investigated. Herd testing will take place and individual herd plans developed as required by the designated brucellosis epidemiologist.

Part VI—Affected Herd Procedures

A. Quarantine

All sexually intact animals in an affected herd are considered to be brucellosis exposed and must be confined under quarantine until they meet the requirements for quarantine release. Quarantined exposed animals may only move directly to slaughter or to an approved quarantine facility. Such movement must be made under permit in a sealed vehicle or a vehicle accompanied by a State or Federal animal health official. Attempts should be made to collect tissues from slaughtered animals for *Brucella* culturing.

B. Testing and Quarantine Release

Retesting of all sexually intact animals 6 months of age or older must begin 30 days after all reactors have been removed from the herd or as specified in the herd plan.

1. When reactors are discovered, testing at 30-day intervals is recommended. The testing interval must be included in the individual herd plan.

2. For release from quarantine, a minimum of two negative herd tests is required, as follows:

   a. The first test must occur 30 days or more after the last reactor has been removed.

   b. The second test must occur 180 days or more after the last reactor has been removed.

3. A postquarantine test must take place 6 to 12 months after release from quarantine.

C. Calves or Fawns From Affected Herds

All calves or fawns in an affected herd are included under the herd quarantine restrictions.

1. Females removed from the adult herd must remain under quarantine and be held apart from the adult herd, separated by at least two fences, until negative results are obtained on an approved test following parturition; or

2. Females calves remaining in the adult herd during the time the herd was affected must have given birth; thereafter, the entire herd must test negative for brucellosis after the last such female has calved before the quarantine can be released; and

3. Males must test negative after reaching 1 year of age; but

4. Neutered calves are not subject to any quarantine restrictions.

D. Individual Herd Plan

The herd owner, the owner's veterinarian if requested, and a veterinarian of the Cooperative State–Federal Cervid Brucellosis Program will develop a plan to eradicate and monitor brucellosis in each affected herd. The plan must be finalized within 30 days of determination that the herd is affected.

The herd plan should address herd management, testing, and isolation of females during calving. The plan must be formalized as a memorandum of agreement between the owner and Program officials and must be approved by the designated brucellosis epidemiologist. A critical review and evaluation of the plan should occur at periodic intervals.

E. Retesting Reactors

The owner may request an additional blood test of reactors, at his or her expense, within 3 days after being notified of the initial blood test results. Samples must be collected and submitted to the original testing laboratory by a Program official or designated representative. All sexually intact animals must remain under herd quarantine until test results are classified.

F. Herd Depopulation

State and Federal animal health officials should consider depopulating brucellosis-affected herds whenever possible.

G. Cleaning and Disinfection

Premises must be cleaned and disinfected under State or Federal supervision within 15 days after reactors have been removed for slaughter.

Part VII—Animal Movement

A. Interstate Movement

Interstate movement may only occur from herds not under quarantine for brucellosis or herds not known to be affected with brucellosis.

1. *Certificate requirements*—All animals moving interstate must be accompanied by a certificate.

2. *Testing requirements*

   a. Certified Brucellosis-Free cervid herds—No movement testing is required.

   b. Brucellosis-Monitored cervid herds—All sexually intact animals 6 months of age or older must test negative for brucellosis within 90 days prior to interstate movement. A postmovement retest is recommended 90 days after entry.

   c. Other cervid herds—All sexually intact animals 6 months of age or older must test negative for brucellosis within 30 days prior to interstate movement. A postmovement retest is strongly recommended 90 days after entry.

B. Movement to Slaughter

All animals 6 months of age or older must be tested for brucellosis when slaughtered in State or USDA-approved slaughter establishments. Every effort should be made to test all cervids slaughtered at home or under field conditions for brucellosis.

C. Movement From a Quarantined Herd or Premises

Reactors, suspects, and exposed animals may move from a quarantined herd or premises under permit directly to slaughter or to an official quarantine facility.

1. *Tagging and branding*

   a. Reactors must remain on the premises where they are found until they have been identified by hot iron branding with the letter "B" (at least 2 × 2 inches) on the left hip and an official reactor tag has been placed in the left ear.

   b. Suspects must remain on the premises where they are found until they have been identified by hot iron branding with the letter "S" (at least 2 × 2 inches) on the left hip and an official eartag has been placed in the right ear.

   c. Exposed animals must remain on the premises where they are found until they have been identified by hot iron branding with the letter "S" (at least 2 × 2 inches) on the left hip and an official eartag has been placed in the right ear.

2. *Under seal*—In lieu of tagging and branding, reactor, suspect, and exposed animals may move directly to slaughter in a sealed vehicle, accompanied by a State or Federal animal health official. In Alaska, cervids may be hazed or herded to a slaughter establishment over quarantined ranges under the direction of the State Veterinarian.

3. *Calves or fawns*—Calves or fawns may move from a quarantined herd or premises only after neutering or "S" branding, or directly to slaughter under seal.

D. Permits

1. *Reactor, suspect, and exposed animals*—Reactors, suspects, and exposed animals can move only as described under Part VII, sec. C. Official documentation permitting the movement must be prepared in the State of origin by a State or Federal animal health official or accredited veterinarian. A copy of the permit must be immediately sent to the State animal health official in the State of destination.

   The following information must be present on the permit:

   a. The owner's name and address;

   b. The points of origin and destination;

   c. The number and type of animals moved;

   d. The purpose for which the animals are to be moved;

   e. The individual animal's identification; and

   f. The official seal numbers.

   Official seals must be placed on transport vehicles moving unbranded suspects and exposed animals. Seals will be applied by State or Federal animal health officials or by authorized accredited veterinarians. The seals will be broken at destination by a State or Federal animal health official or by an authorized accredited veterinarian.

2. *For entry*—Premovement authorization must be obtained from the State animal health official in the State of destination prior to movement and is required for authorizing animals to move into a State. The permit number must be recorded on the health certificate, and the permit will state the conditions under which the movement may be made. These conditions may be in addition to the requirements in this UM&R and the Code of Federal Regulations.

Part VIII—Certified Brucellosis-Free Cervid Herds

A. Qualifying Methods

Certified Brucellosis-Free cervid herd status must include all eligible animals in the herd. A certified herd may be purchased, or a herd may qualify for Certified Brucellosis-Free cervid herd status by complete herd testing, as follows:

1. *Complete herd test*—For initial certification, all sexually intact cervids in the herd 6 months of age or older must have three consecutive negative tests 9 to 15 months apart.

2. *Purchasing a Certified Brucellosis-Free cervid herd*—A herd test is not required if the purchased animals remain on the same premises. Upon request and with proof of purchase, a new certificate will be issued in the new owner's name. The anniversary date and the herd number will remain the same.

   If part or all of the purchased herd is moved directly to premises that have no other animals, the herd may retain Certified Brucellosis-Free cervid herd status without a test. A new certification number will be issued. The anniversary date of the new herd will be the test date of the most recent herd test.

B. Conditions

1. *Duration of status*—A herd is certified for 24 months.

2. *Recertification*—For continuous certification, all test-eligible animals in the herd must have a negative test between 21 and 27 months after the last certification date. If suspects or reactors are found on recertification testing, certification status will be terminated and a herd investigation will be initiated.

3. *Movement into a Certified Brucellosis-Free cervid herd*

   a. *From Certified Brucellosis-Free cervid herds*—Animals originating from Certified Brucellosis-Free cervid herds do not need to be tested prior to movement. However, if the animals are not tested prior to movement, it is recommended that they be tested between 60 and 180 days after addition to the Certified herd.

   b. *From other herds*—Animals purchased from cervid herds not Certified Brucellosis-Free cannot be considered part of the certified herd until the following three blood tests have been conducted:

      (1.) Within 30 days prior to movement from the herd of origin;

      (2.) Between 60 and 180 days after addition to the Certified Brucellosis-Free cervid herd; and

      (3.) As part of the herd blood test on the recertification test following the second test.

4. *Herds consisting of both cattle and Cervidae*—If a herd consists of both cattle and Cervidae, the requirements for herd certification must be consistent with those for cattle as outlined in "Brucellosis Eradication Uniform Methods and Rules" (APHIS 91–45–011, published September 1998).

5. *Recognition of Certified Brucellosis-Free cervid herds*—The State animal health official and the APHIS AVIC will issue a Certified Brucellosis-Free Cervid Herd certificate when the herd first qualifies. For recertification, the State animal health official will issue a renewal form which must also be approved by the APHIS AVIC.

Part IX—Brucellosis Monitored Cervid Herd

A. Qualifying Methods

1. *Granting Monitored Herd Status*—Monitored Herd status will be approved by the cooperating State and Federal animal health officials.

2. *Complete herd test*—For initial testing, a percentage of the sexually intact animals 6 months of age or older in the herd shall initially be tested for brucellosis at an approved laboratory. This sample must be of sufficient size to detect a 2-percent prevalence in the herd at a 95-percent confidence level (see appendix, table 4). Samples may be collected on the premises or at slaughter.

B. Conditions

1. *Duration of status*—Monitored status will be official for a 12-month period.

2. *Recertification*—A sample of the sexually intact animals 6 months of age or older that is equal to not less than 25 percent of the initial sample size must be tested annually. During any 3-year period, the numbers tested must equal at least 100 percent of the initial sample tested to qualify for monitored status.

3. *Movement into a Brucellosis-Monitored cervid herd*

   a. From Certified Brucellosis-Free cervid herds—Animals originating from Certified Brucellosis-Free cervid herds may be added to a Monitored Herd without testing restrictions.

   b. From Brucellosis-Monitored cervid herds—Animals originating from other Monitored Herds must test negative to an official brucellosis test within 90 days prior to movement into a new Monitored Herd.

   c. From other herds—Three negative tests are required. All additions must test negative for brucellosis on two tests 90 days apart. The second test must be within 90 days prior to movement from the herd of origin. A third test must be conducted at least 90 days following movement from the herd of origin.

4. *Recognition of Brucellosis-Monitored cervid herds*—The State animal health official and the APHIS AVIC will issue a Brucellosis-Monitored Cervid Herd certificate when the herd first qualifies. For recertification, the State animal health official will issue a renewal form which must also be approved by the APHIS AVIC.

Appendix

Table 4—Number of cervids needed to test to obtain a 95-percent probability of detecting one or more infected cervids with a 2-percent cervid infection rate

Total number of cervids in herd	Sample size
50	48
100	77
150	94
200	105
300	117
400	124
500	128
600	131
800	135
1,000	138
1,200	139
1,400	141
1,600	142
1,800	142
2,000	143
2,500	144
3,000	145
4,000	146

Source: Efficacy of Random Samples of Cervidae in Brucella Detection [internal VS report, available from USDA, APHIS, VS, National Center for Import–Export, Unit 38, 4700 River Rd., Riverdale, MD 20737–1231].