

**USDA APHIS NATIONAL VETERINARY SERVICES  
STRATEGY & POLICY  
PROTOCOL FOR THE IMPORTATION OF  
FARMED CERVID EMBRYOS FROM NEW ZEALAND**

**Amended October 2019**

This protocol describes the conditions required to import embryos from farmed cervids according to regulations found in 9 CFR Part 98.

**1. GENERAL REQUIREMENTS**

- 1.1. The U.S. importer must obtain an import permit from the:

U.S. Department of Agriculture (USDA)  
Animal and Plant Health Inspection Service (APHIS)  
Veterinary Services (VS)  
Strategy & Policy (S&P)  
4700 River Road, Unit 39  
Riverdale, MD 20737-1231

Telephone: **(301) 851-3300, Option 2**  
Fax: **(301) 734-4704**

Web Site: [APHIS Imports](#)

The application, **VS Form 17-129, “Application for Import or in Transit Permit,”** may be obtained by writing or telephoning S&P, or by downloading it from the APHIS web site: [Animal Health Permits](#)

- 1.2. An official health certificate is required. The official health certificate must be issued by a veterinarian designated by the Ministry for Primary Industries (MPI), New Zealand, and must be endorsed by a MPI veterinarian attesting to the certifications and tests as required in this protocol. The health certificate must accompany the embryos to the port of entry designated on the USDA import permit.
- 1.3. The embryos must be collected by an embryo collection (EC) team that is approved by MPI, and collected at an embryo collection unit meeting the criteria in Section 2.
- 1.4. The embryo collection team is a group of competent technicians, including at least one veterinarian, to perform the collection, processing and storage of embryos. The following conditions apply:
- 1.4.1. The team is supervised by a team veterinarian.
- 1.4.2. The team veterinarian is responsible for all team operations including verification of donor health status, sanitary handling and surgery of donors, and disinfection and hygienic procedures.
- 1.4.3. Team personnel are adequately trained in the techniques and principles of disease control. High standards of hygiene are practiced to preclude the introduction of infection.
- 1.4.4. The collection team have adequate facilities and equipment for:
- 1.4.4.1. Collecting embryos;
- 1.4.4.2. Processing and treatment of embryos at a permanent site or mobile laboratory;

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- 1.4.4.3. Storing embryos.
- 1.4.4.4. The processes noted in 1.3.1.4.1- 1.3.1.4.3 above are not required to be performed at the same location.
- 1.5. If artificial insemination (AI) is used to conceive the embryos, the semen must originate from a semen collection center approved by the MPI for the export of semen to the United States.
- 1.6. The Embryo Collection Center (ECC) must be certified and accredited free of brucellosis (*B. abortus*) and TB (*Mycobacterium bovis*) by MPI.

**2. THE EMBRYO COLLECTION CENTER (ECC)**

- 2.1. Farmed cervid embryos are eligible for exportation to the United States if they were conceived, collected, processed, and stored prior to exportation at an EC unit or facility approved by MPI. The embryo collection may be carried out on the premises where the donor dam's herd of origin is kept, or at any other location, provided that the following requirements are met:
- 2.2. **Animal holding and breeding area(s).** The EC facility has an area or areas for holding the donor dams and for breeding them (either by natural breeding or artificial insemination).
- 2.3. **Embryo collection area.** The EC facility has a room or outdoor area for collection of embryos that contains a device or devices for restraining goats and sheep during embryo collection. If the ECC area is a room, then the floor, walls, and ceiling are impervious to moisture and disinfection. If the ECC area is an outdoor area, then the area has a floor that is impervious to moisture and is constructed of materials that can withstand repeated cleaning and disinfection. If the outdoor area also has walls or a roof, the walls or roof also are impervious to moisture and constructed of materials that can withstand repeated cleaning and disinfection.
- 2.4. **Embryo processing area.** The EC team utilizes an enclosed room (which may be a separate mobile facility) that is used only for processing embryos. The walls, floor, and ceiling of the room are impervious to moisture and constructed of materials that can withstand repeated cleaning and disinfection. The room contains a work surface for handling the embryos, such as a table or countertop that is impervious to moisture. The room also contains a microscope with a minimum of 50x magnification and equipment for freezing the embryos.
- 2.5. **Embryo storage area.** The EC area has a lockable storage tank that is used only for storing frozen embryos intended for exportation to the United States.
- 2.6. **Area for cleaning and disinfection or sterilizing equipment.** The EC team utilizes an enclosed room for cleaning and disinfecting or sterilizing equipment used for the artificial insemination or for the collection, processing, or storage of embryos. The walls, floor, and ceiling of the room are impervious to moisture and constructed of materials that can withstand repeated cleaning and disinfection.

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**3. EMBRYO PROCESSING**

- 3.1. Each embryos must be washed at least 10 times. Each wash must be accomplished by transferring the embryo into an aliquot of fresh medium that is 100 times the volume of the embryo plus any fluid transferred from the previous wash. No more than 10 embryos from the same flush may be washed together. A sterile micropipette must be used for each transfer, and the embryos must be well agitated throughout the entire volume of the wash before the next transfer. Embryos from different donors may not be washed together.

Note: Any biological product of animal origin used in the media and solutions for collection, processing or storage of embryos/ova should be free of pathogenic micro-organisms. Media and solutions should be sterilized by approved methods according to the IETS Manual\*\*, and handled in such a manner as to ensure that sterility is maintained. Antibiotics should be added to collection, processing and storage media as recommended in the IETS Manual.

- 3.2. After the last wash, each embryo must be microscopically examined over its entire surface at not less than 50x magnification. An embryo may not be imported into the United States unless its zona pellucida is found to be intact and free from any adherent material.
- 3.3. After washing and examination of the zona pellucida, embryos must be individually packaged in sterile ampules or straws and frozen in liquid nitrogen. The donor dam's and sire's identification and breed, the date of embryo collection, the name and address of the place where the embryos were collected, and an identification number for the straw or ampule must be recorded with indelible markings on each ampule or straw. If any of this information is provided in code, deciphering information must be attached to the health certificate for the embryos.
- 3.4. All equipment used to handle the embryos must be replaced by new or sterilized equipment between each washing, and all standard sterile procedures must be observed.
- 3.5. The storage and shipping container must be examined by the veterinarian issuing the health certificate and found empty of embryos and other biological materials prior to use for export of embryos to the United States. The container must be cleaned and disinfected prior to use.
- 3.6. The embryos must be maintained under lock and key or in the custody of the veterinarian issuing the health certificate until they are placed in the shipping container and sealed with Government of New Zealand seals. The seal numbers must be recorded on the health certificate.
- 3.7. The shipment must be routed directly to the United States with no stops en route other than those provided on the USDA import permit.

**4. CERTIFICATIONS: THE HEALTH CERTIFICATE MUST INCLUDE THE FOLLOWING INFORMATION OR STATEMENTS:**

- 4.1. The health certificate must include the following information or statements:

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- 4.1.1. The name and address of the place where the embryos were collected;
- 4.1.2. The name and address of the team veterinarian who monitored the collection of embryos;
- 4.1.3. The date of embryo collection(s);
- 4.1.4. The identifying information for of the donor dam and donor sire, including breed, age and identification numbers for each animal;
- 4.1.5. The number of ampules or straws covered by the health certificate and the identification number or code on each ampule or straw;
- 4.1.6. The dates, types, and results of all examinations and tests performed on the donor dam and donor sire in accordance with Section 4 below;
- 4.1.7. The name and address of the consignor and consignee.
- 4.2. New Zealand is free of Foot-and-Mouth Disease (FMD), Contagious Pleuropneumonia, Akabane, Bluetongue, Aino, and Epizootic Hemorrhagic Disease (EHD) and *Brucella melitensis*.
- 4.3. No cases of disease caused by Schmallenberg virus have been detected or reported in New Zealand.
- 4.4. The donor animals have been part of New Zealand's national herd and have been free of any movement restrictions for the 60 days prior to collection of embryos for export to the U.S. (or for the 90 days prior to collection of embryos for export to the U.S., if donors were imported to NZ from any region not considered by APHIS as free from FMD).
  - 4.4.1. If the donor animals were imported from countries recognized by the USDA to be free of FMD, then these animals must have been free of any import quarantine restrictions and able to move freely within New Zealand's national herd for a minimum of 60 days prior to beginning the process to be certified as donors for collecting germplasm for export to the United States.
  - 4.4.2. If the donor animals were legally imported from a country not recognized by the USDA to be free of FMD and rinderpest, then the donor animals must have been free of any import quarantine restrictions and have been able to move freely within New Zealand's national herd for a minimum of 90 days prior to beginning the process to be certified as donors for collecting germplasm for export to the United States.
- 4.5. During the 60 days prior to collection of embryos for export to the United States, the donor dams were not corralled, pastured, or held with animals of a lesser health status or under any restrictions which would have made them ineligible for export to the United States.
- 4.6. During the 30 days prior to the collection of embryos for export to the United States, the donor dams were inspected by the team veterinarian and found to be clinically free of contagious diseases; and the team veterinarian has provided a declaration certifying this.
- 4.7. During the 12 months prior to the collection of embryos for export to the United States, there

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has been no evidence to indicate that the donor dams have been affected with or exposed to bovine tuberculosis (TB) or brucellosis, or other animals associated with the donor dams.

- 4.8. There was no clinical evidence of TB, brucellosis or other infectious disease in any herd located on the embryo collection premises on the date(s) of embryo collection.
- 4.9. Prior to the collection of embryos for export to the United States:
  - 4.9.1. All donors in the ECC must originate from herds designated by MPI to be free of TB and brucellosis for at least 2 years prior to their entry into the ECC.
  - 4.9.2. The herd of origin of the donors must have been tested with negative results for TB within 12 months of the date of entry of the animal into the ECC.
  - 4.9.3. Any donors from a herd or ECC that had a confirmed *M. bovis* infection, within the past 10 years, are not eligible for export of semen to the United States.
- 4.10. After processing, the ampules/straws were stored in dedicated storage tanks containing embryos for export to the US at a storage facility designated by MPI, and under lock and key until such time as they were placed in the shipping tank and sealed with Government of New Zealand seals.
- 4.11. The embryos were collected, processed and stored in accordance with recommendations provided in Chapters 4.7 and 4.8 of the current OIE Terrestrial Animal Health Code, and the International Embryo Transfer Society (IETS) Manual.
- 4.12. The EC team followed guidelines in the current International Embryo Transfer Society manual for the cleaning disinfection, and sterilization of all equipment that came in contact with embryos or with the media used for the collection and processing of embryos.

**5. TESTING [Note: the applicable test or statement should be included on the health certificate. Any required testing results must be negative or fall within specified ranges.]**

- 5.1. On the dates of collection for the embryos, none of the animals in the center showed any evidence of infectious or contagious disease.
  - 5.1.1. The donor animals must be tested and found negative not less than 21 nor more than 120 days after embryos are collected for the following diseases:
  - 5.1.2. Tuberculosis - Negative intradermal tuberculin test. (Test must be at least 60 days from any previous intradermal tuberculin test). See 5.4.2.
- 5.2. Tuberculosis:
  - 5.2.1. Each embryo donor must originate from a herd that tested negative to a whole herd test for bovine tuberculosis. For the purposes of this protocol, APHIS defines a 'herd' as any group of farmed cervids held together, without addition and isolated from other animals susceptible to ruminant diseases, for at least 4 months prior to collection. The

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donors must be tested with negative results during the 4 month isolation period; and tested with negative results a second time at least 120 days after the first test (and after the last collection for export to the United States).

5.2.2. TB testing may be performed using a the single cervical test [The intradermal injection of 0.1 mL (5,000 tuberculin units) of PPD bovis tuberculin in the mid-cervical area with a reading by visual observation and palpation at 72 hours (plus or minus 6 hours) following injection], as described in the current OIE Terrestrial Manual of Standards for Diagnostic Tests and Vaccines.

5.2.3. Any animal exhibiting a non-negative response to the TB test is ineligible for donating embryos for export to the US.

5.3. If natural breeding or fresh semen was used to fertilize ova to produce embryos for export, then the donor sire met the test requirements of this section.

5.4. Note: if artificial insemination is used, a semen export health certificate for the donor male must accompany the embryo shipment. This certificate must show that the donor male was eligible to export semen to the United States in accordance with the criteria set forth in the USDA APHIS "Protocol for the Importation of Cervid Semen from New Zealand."

## **6. STORAGE AND SHIPMENT OF EMBRYOS**

6.1. Containers which contain embryos to be exported into the United States must be sealed by a MPI veterinarian or authorized designee with official seals. The seal number(s) must be recorded on the health certificate that accompanies the embryos to the United States.

6.2. The shipment must be routed directly to the United States with no stops en route other than those provided for on the USDA import permit.

## **7. ADDITIONAL GUIDELINES**

Animal health regulations of the destination U.S. state may have additional requirements for the proposed import ([State Regulations and Import Requirements](#)). It is the responsibility of the importer to follow all guidelines for the importation of regulated live animal commodities to the destination state.

## **8. ARRIVAL AND INSPECTION AT THE PORT OF ENTRY**

8.1. The shipment must be routed directly to the United States with no stops en route other than those provided on the USDA import permit. This shipment may not transit a region considered by USDA APHIS to have foot and mouth disease (FMD) as noted on the USDA APHIS webpage: [Animal Health Status](#)

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- 8.2. On arrival at the port of entry, the importer or the importer's agent must present the original health certificate and the original import permit for the embryos to an APHIS inspector at the port.
- 8.3. The shipping container and all straws or ampules containing embryos must be made available for inspection at the port of entry and may not be removed until an APHIS inspector determines that the shipment of embryos meet import requirements and releases them.

**9. EMBRYOS REFUSED ENTRY**

If any embryos are determined to be ineligible for importation into the United States upon arrival at the port of entry, the importer or agent must remove them from the United States within 30 days, or the embryos will be destroyed.