UNITED STATES ANIMAL HEALTH ASSOCIATION - 2005

RESOLUTION: **15 APPROVED**

SOURCE: COMMITTEE ON IMPORT-EXPORT

SUBJECT MATTER: THE DETERMINATION OF PROTOCOLS FOR THE IMPORTATION OF SOUTH AMERICAN CAMELID EMBRYOS

DATES: Hershey, Pennsylvania – November 3-9, 2005

BACKGROUND INFORMATION:

The international movement of embryos from South American camelids has not been possible because, in these species, the embryos are retained in the oviduct until after hatching and therefore cannot be collected nonsurgically while still in the zona pellucida (ZP). Currently, the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Veterinary Services (VS) regulations require the presence of an intact ZP on embryos for importation into the United States.

A more significant barrier to international movement of camelid embryos has been the fact that these hatched blastocysts have proved to be nearly impossible to freeze by standard methods that rely on movement of the cryoprotectant down a concentration gradient from outside the trophectoderm layer of the conceptus in to the aqueous blastocoel fluid. It is universally accepted that embryos intended for movement across international borders must be cryopreserved so they can be held for a period of time greater than the incubation period for any diseases of concern to allow post-embryo-collection testing of the embryo donor animal. Donor animals can then be retested to provide reliable assurance that they were not infected with pathogens of concern at the time of embryo collection.

A new technique involving direct injection of cryoprotectant in to the blastocoel fluid and extraction of almost all of the blastocoel fluid to allow rapid equilibrium of the entire conceptus prior to cryopreservation, as well as the post-thaw injection of culture medium to reinflate the trophectoderm, has opened the door to practical cryopreservation of hatched blastocysts. Now, hatched embryos of South American camelids can be cryopreserved and held until post-collection testing can be accomplished.

Risk assessment of the animal health status of the country, region and farm of origin of embryos intended for importation, coupled with the ability to cryopreserve and hold these embryos until after post-collection testing, has shown to provide a wide margin of statistical certainty that the embryos imported under these strict guidelines are free from disease and safe for importation without a ZP.

Finally, international movement of cryopreserved, hatched blastocysts of the South American camelid will allow increased trade in the genetics of these species with a dramatic reduction in the health risks and animal welfare issues involved in the importation of live animals.

RESOLUTION:

The United States Animal Health Association (USAHA) urges the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Veterinary Services (VS) to determine if protocols can be developed for the importation into the United States of cryopreserved, hatched blastocysts of South American camelids.

RESPONSE:

ANIMAL AND PLANT HEALTH INSPECTION SERVICE, VETERINARY SERVICES (APHIS-VS)

The National Center for Import and Export will evaluate the procedures required for importation of cryopreserved, hatched blastocysts of South American camelids.