



December 2006

AH/Equine/2006-01

Equine Viral Arteritis (EVA)

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The virus which causes Equine Viral Arteritis (EVA) was first isolated from horses in Ohio in 1953 but the disease has afflicted equine animals worldwide for centuries. It has been more common in some breeds of horses in the United States, but there is no breed “immunity.” There is no known human hazard. EVA has now entered Utah, but careful planning and management can help most owners avoid the effects on their horses and other equine animals.

EVA causes no clinical signs in many horses but in others it may cause abortion, respiratory infections and/or severe swelling of the legs with accompanying lameness. The disease is spread through both the respiratory and reproductive systems and a major challenge of EVA is its rapid spread in some situations. During the 2006 outbreak in New Mexico, unknown infected horses or semen were sent to 18 states, but only 9 of those detected clinical disease or abortion. However, in Utah it infected over 25 premises and 600 horses. Several Utah stallions became shedders of the virus.

Transmission

EVA is primarily a respiratory disease but can also be transmitted during breeding, either naturally or by artificial insemination. The virus is testosterone dependent and only stallions become long term or permanent carriers and shedders. Mares, geldings, and foals are infected and shed the virus for a couple of weeks but all virus transmission from them ends by three weeks. The testosterone effect in the stallion allows the virus to establish in the secondary sex glands and persist there. For some stallions the shedding of virus in the semen will only occur for several weeks to months but

for others it may be for their lifetime. Stallions may also spread the virus by the respiratory route during the first couple of weeks after the initial infection. It is possible to use an infected stallion for breeding, IF but only if the guidelines outlined below are followed carefully. Semen infected with the EVA virus will readily transmit infection to inseminated mares. Freezing semen does not inactivate the virus.

A major challenge with transmission is that a mare may be infected with the EVA virus during the breeding process, but then begin shedding the virus via the respiratory tract to any other horses around her. They in turn can transmit the virus to others by the respiratory route, or if the infected horse is a stallion he could also spread the virus to mares initially by the respiratory route and later by the breeding process.

Another major factor in transmission is “fomites.” This includes everything from halters and other tack, to water buckets, corral fences and transport trailers; anything a horse can breathe on and another horse contact.

Control Management and Vaccination

Prevent the exposure of your horses to EVA by having veterinary documents to insure that the stallions to which you breed your mares, or the semen which is shipped in for breeding, are not carriers of EVA. If either is positive, then special planning and actions must be implemented. Permission and specific directions for handling infected semen or infected stallions can be obtained from the office of the State Veterinarian (UDAF). It is being proposed that only facilities approved by the office of the State Veterinarian may handle infected semen or stand EVA shedding stallions.

An approved facility must follow specific biosecurity requirements so the virus is not transmitted to the general horse population.

Control of EVA can be achieved through movement restrictions and vaccination. It is critical that horses which may have been exposed to the virus, by the venereal or respiratory route, be identified and prevented from being moved into contact with other susceptible, non-immune equids. If this restriction on movement is delayed until clinical signs are apparent, some spread will already have occurred and a single, or many new, premises may be involved.

Only one vaccine is currently available, ARVAC (Fort Dodge) and it has been used in the United States for about 20 years. It is a modified-live-virus vaccine and has been safely used in many horses, even in the face of an outbreak. Just one initial dose of vaccine will provide immunity for a full year. If a first-time vaccinated horse is later exposed to the EVA virus, the vaccinate may shed a small amount of EVA virus for a short time, but in much smaller quantities than if not vaccinated.

CAUTION: Vaccination will result in the development of a blood serum titer that will be detected upon EVA testing and CANNOT be distinguished from active infection. It is critical that precise procedures and documentation are followed to avoid confusion and extra expenses in other testing, especially for stallions.

Any horse vaccinated for the first time may temporarily shed the modified form of the virus (modified-live) that could be transferred to neighboring horses and which may cause them to test positive in the future. It is important to prevent exposure of naïve stallions to first-time vaccinated horses for a period of 21 days to prevent those stallions from testing positive for the virus.

Recognize that a vaccinated horse, with a positive titer, may not be acceptable for export to some other countries, particularly if there is not proof of negative EVA status prior to vaccination. Certain

countries may impose restrictions on export of semen from vaccinated stallions residing in the United States.

The vaccine does not have label approval for use in pregnant mares. Follow the advice of your veterinarian if considering the use of the vaccine in pregnant mares.

Regulatory Planning

EVA is a reportable disease in Utah. Stallions that are reported as seropositive to the State Veterinarian will be classified as an EVA shedder unless an official semen test report indicates that the stallion is a non-shedding EVA stallion.

The Division of Animal Industry (UDAF) has established an EVA Stallion Registry. This voluntary registry is available for horse owners to determine the EVA status of a given stallion. It enables stallion owners to provide a certification of the EVA status of their stallion(s) to potential clients.

Owners will need to work with their veterinarians during this registry process. EVA stallion registry forms can be obtained on the UDAF-Animal Industry Web site at:
http://ag.utah.gov/animind/animal_ind.html
or by calling 801-538-7160.

Four classifications for stallions are being proposed and will be discussed in detail at public hearings:

Class 1 – Serologically negative stallion which the owner does not want to vaccinate.

Class 2 – Serologically positive but negative for virus in the semen (non-shedder).

Class 3 – Serologically positive and positive for virus in the semen (shedder).

Class 4 – Serologically negative and subsequently vaccinated annually.

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This publication is issued in furtherance of Cooperative Extension work. Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Noelle Cockett, Vice President for Extension and Agriculture, Utah State University.