

WHAT YOU NEED TO KNOW ABOUT EVA

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EVA. Equine viral arteritis. It's been a buzzword in the Quarter Horse industry since June, when a large breeding facility in New Mexico was quarantined when the virus responsible, equine arteritis virus (EAV), was traced to one of their stallions. The racing industry was hit the hardest, resulting in a special meeting about EVA during the Heritage Place Fall Mixed Sale on October 27, in Oklahoma City. This is what you need to know to protect your horses and your facility from EVA.

Though infrequent, outbreaks of EVA occur from time to time, sometimes involving large numbers of horses. The current series of outbreaks is not the first multi-state recording of the disease. Similar occurrences took place in the mid-west in 1988 and again in 1993, the latter associated with a widespread outbreak of EVA at Arlington Park in 1993. The current outbreak marks the first since 1984, when several Thoroughbred farms in Kentucky tested positive. That outbreak was controlled quickly, and never left the state. This time around, things are different. Cooled semen shipments and mares that were possibly exposed to EVA in New Mexico and cooled semen shipments were tracked to 19 different states, with EVA cropping up most prevalently in Utah, where 221 affected farms were identified in the ensuing months.

Veterinarians and industry representatives have held meetings to discuss the

control and prevention of this and future EVA outbreaks. In October, the Oklahoma Department of Agriculture issued restrictions on horses entering the state, including those en route to the AQHA World Show in Oklahoma City. So what do you need to know to protect your horses and your facility from EVA?

Clinical Signs

Symptoms

EVA is rarely life-threatening to healthy, adult horses. However, because it is a contagious disease, EVA is also a reportable disease, meaning you must report any suspected cases of EVA to your veterinarian immediately.

Most horses exposed to the virus will not develop symptoms of the disease. If illness does occur, EVA can be difficult to diagnose because it is clinically similar to several other equine diseases, such as Equine Rhinopneumonitis, influenza, Equine Infectious Anemia (EIA) and purpura hemorrhagica. The clinical signs vary in range and severity and can last from two to 14 days. They include:

- Fever
- Swelling, most notably the legs, scrotum, sheath, mammary glands and above or around the eyes
- Loss of appetite (anorexia)
- Depression
- Conjunctivitis—inflammation and discharge
- Nasal discharge

- Skin rash (frequently localized on the head and neck, but can be generalized)
- Abortion in pregnant mares
- Pneumonia and death in young foals
- Possible short-term subfertility in stallions that experienced significant fever and scrotal edema.

"The presence or absence of clinical signs is no guarantee an animal isn't acutely infected, because a vast the majority of acute infections are subclinical or asymptomatic," said Peter J. Timoney, MVB, PhD, FRCVS, a Director Chair and EVA researcher at the University of Kentucky's Gluck Equine Research Center in Lexington. "Also, this disease also mimics a tremendous wide range of other common infectious and non-infectious diseases of horses. So even where you see clinical signs, it doesn't necessarily reflect the presence of this virus. It could be something else."

The only definitive answer when it comes to diagnosing EVA is a laboratory test. Your regular veterinarian can draw blood and send it to one of 18 laboratories around the country that are USDA approved to perform EVA serological testing for EVA. The costs of serological testing are minimal when compared to the possible economic consequences of foal abortions and open mares.

Serological testing is one of the new EVA Guidelines for the 2007 Breeding Season developed during the October 27 meeting in Oklahoma City (see below).

EVA GUIDELINES FOR THE 2007 BREEDING SEASON:

Broodmares entering breeding facilities will have a current health certificate with negative Coggins and one of the following:

1. Vaccination with Fort Dodge ARVAC (Equine Viral Arteritis) vaccine at least (more than) 30 days prior to arrival at breeding facility.
2. A negative Equine Viral Arteritis (serum neutralization) test taken less than 30 days prior to arrival.

Original (no copies) documentation of these vaccinations and tests signed by the mare owners' veterinarians must accompany each horse.

FORMULATED BY GROUP DURING 2006 HERITAGE FALL SALE.

Numerous farm managers and veterinarians met and discussed the ramifications of the recent EVA outbreaks, and developed guidelines for the upcoming 2007 breeding season, to control the spread of EVA. The meeting was organized by Lazy E Ranch as the result of a conversation between Lazy E Ranch management and Joe Noble, DVM, the ranch's resident veterinarian. More than 60 people attended the three-hour meeting, including Leonard Blach, DVM, of Buena Suerte Equine, Glenn Blodgett, DVM, 6666 Ranch; Steven Burns, DVM, Burns Ranch; Dee and Betty Raper, Belle Mere Farm; Gus and Chris Barakis, Scarlett Hill Farm; Andrew Gardiner, JEH Stallion Station; Vaughn Cook, Royal Vista Equine; Laura Wipf, Royal Vista Ranches; Jim Bailey, DVM, Royal Vista Southwest; Kirk Goodfellow, Dreams Come True Ranch; Clayton Keys and Jeff Tebow, Heritage Place; Holly Wilson, DVM; Jay Wilson, Terry Bell Farms; Lake Newcomb, Newcomb Ranch; Pat Young, DVM; Fredie Sumrow, Rafter S Ranch; and Marc and Samantha Pehl, Running T Ranch. Reed Holyoke, DVM, of Oklahoma State University, and Rocky Bigby, of Fort Dodge Pharmaceutical, the company that makes the ARVAC vaccine, gave presentations.

Transmission

EVA is of special concern to breeders because it can cause abortion in pregnant mares, death in young foals and make breeding stallions permanent carriers of the virus. According to the American Association of Equine Practitioners, EVA can be transmitted among horses in four different ways:

- Respiratory: An acutely-infected horse spreads the virus to other horses via respiratory secretions (exposure commonly occurs at racetracks, shows, sales and other events).
- Venereal: Virus shed in the semen of an infected stallion is transmitted to mares when they are bred.
- Indirect contamination: The virus is transferred indirectly through the use of contaminated tack or equipment shared among horses or on hands or clothing of personnel handling animals.
- In utero: Virus passes across the placenta from an infected mare to her unborn foal.

"The major worry is if you send an unprotected mare to be bred to a stallion

"I strongly recommend the vaccination of colts between six and 12 months of age..."

~ DR. PETER J. TIMONEY

that is a carrier," explained Dr. Timoney. "Once that mare has been inseminated with infective semen, the concern is not that she herself is going to abort at a later date, assuming that she conceived from that insemination. But rather the risk she poses of spreading the virus if she goes back, and she's put out at pasture with a group of unprotected in-foal mares; she will become acutely infected with the virus, which she will shed by the respiratory tract and act as a very potent source of infection for those pregnant mares. If they become infected, there is the potential for them to abort late in the acute or early in the convalescent phase of the infection."

In New Mexico, the high number of mares that had been checked in foal and subsequently aborted is what gave rise to the initial concern and led to the discovery of the EVA outbreak. The virus was spread from exposed, carrier stallions to mares through the breeding process (including shipments of cooled, shipped semen), and also from mare to mare through direct and indirect contact.

Infection

Once infected, horses react to EVA/EAV differently, depending on their gender and reproductive status.

Stallions and sexually mature colts are of the greatest concern when it comes to EVA/EAV infections, because they may become permanent or long-term EVA virus carriers. A carrier stallion has the ability to "shed" the virus in his semen, passing it on to the mares he breeds. Like acutely infected horses that may be asymptomatic, a

stallion that never shows outward signs of the disease may still harbor the virus in his reproductive tract. Currently, there is no proven medical means of eliminating the virus from a carrier stallion's reproductive tract.

Geldings, mares and sexually immature colts do not become persistently infected with EVA/EAV, even if they are exposed to the virus. While pregnant mares run the risk of aborting their foals if infected, their bodies will eventually eliminate the infection virus and they develop antibodies, just as an open mare or gelding would.

"Mares do not become carriers of this virus," explained Dr. Timoney. "A mare will experience the infection, she will shed the virus for a limited period of time by a variety of routes, primarily by the respiratory route, it (the virus) will circulate in her blood stream for up to two and a half weeks, and then she'll develop a very solid and a very long-lasting immunity as a result of that natural infection. The virus will be eliminated from her system and she will merely represent a serologically positive, immunized mare. But not one that represents any risk whatsoever in terms of shedding the virus at that point and acting as a source of infection for any susceptible in-contact horses."

Prevention

"Your best protection against this disease is the use of a combination of sound management practices and vaccination to prevent its introduction on your farm and to immunize everything," said Dr. Timoney. "Go on the assumption that the infection is out there, and you don't know which animal is necessarily going to represent a source of it. The easiest way out is to go ahead and vaccinate." On premises where isolation and segregation of horses is not feasible, the most practical way to control the disease is to vaccinate all at-risk horses against it."

While the recent EVA outbreak resulted in an immediate shortage of vaccines, Dr. Bigby related that Fort Dodge manufactured 37,000 doses of the vaccine in the month of October, and has increased production of the drug, which should cost less than \$50 per dose. Fort Dodge Animal Health, the maker of the equine arteritis vaccine Arvac®, planned to have enough vaccines available by early January to

meet the needs of the industry prior to the 2007 breeding season.

Vaccination is the second half of the EVA Guidelines for the 2007 Breeding Season. Mares that do not have a negative EVA (serum neutralization) test taken less than 30 days prior to their arrival at the farm must have proof of vaccination with Fort Dodge ARVAC vaccine at least 30 days prior to arrival at the breeding facility. Original documentation of either vaccination or serum neutralization tests must be provided (no photocopies allowed) and be signed by the mare owners' veterinarian.

"What I've tried to advocate for many years there has been an ongoing effort to try to get states to accept the need for vaccination, at least of the respective breeding stallion populations," continued Dr. Timoney, explaining that states such as New Mexico, Colorado and Utah are already developing EVA control programs. "Furthermore, I strongly recommend the vaccination of colts between six and 12 months of age, such that they be vaccinated before they're might be exposed and before there is an opportunity for them to become naturally infected and possibly persistently infected with the virus."

The AAEP recommends the following management practices to prevent EVA infections:

- Isolate all new arrivals (and return-

ing horses) to your farm or ranch for 3-4 weeks.

- If possible, segregate pregnant mares from other horses.

- Blood test all breeding stallions for EAV antibodies.

- Check semen of any unvaccinated, antibody positive stallions to identify carriers before breeding.

- Vaccinate all breeding stallions annually.

- Physically isolate any EAV carrier stallions.

- Restrict breeding EAV carrier stallions to vaccinated mares or those whose blood is positive for naturally-acquired antibodies to the virus.

- Vaccinate mares against EVA at least 3 weeks prior to breeding to a known carrier stallion.

- Isolate mares vaccinated for the first time against EVA for 3 weeks following breeding to an EAV carrier stallion (there is no need to revaccinate mares that need to be rebred).

- In breeds or areas with high rates of EAV infection, it is recommended that all intact males between 6-12 months of age be vaccinated as advised by your veterinarian.

Another EVA meeting is planned during the Heritage Place Winter Mixed Sale, January 18-20, 2007, in Oklahoma City. If you are sending horses to the Heritage

Place Sale, be sure to check their updated EVA guidelines, which are similar to the requirements Keeneland has had in place for several years, and those used at the Ruidoso sale this past summer.

If you start with a solid understanding of EVA and add in a management program that includes vaccinations, you can keep EVA from affecting your horses now, and throughout the upcoming breeding season.



NEW MEXICO ISSUES EVA RULES:

In the first week in December, the New Mexico Livestock Board approved a management plan and rules and regulations for dealing with Equine Viral Arteritis in New Mexico.

Dr. Leonard Blach of Buena Suerte Equine, a long-time TRACK Magazine subscriber and an advertiser in every issue since TRACK began, was the driving force that crafted the documents, some of which still need final approval. Blach sent a copy of the documents to TRACK.

According to Dr. Blach, the plan did immediately lift the last quarantine in New Mexico on December 5.

Emergency rules and the proposed new management plan can be obtained by contacting the New Mexico Horse Breeders Association (505-266-7056 or www.nmhorsemen.com) or the New Mexico Livestock Board (505-841-6161 or www.newmexicolivestockboard.com).