

Equine Infectious Anemia in Arkansas

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Equine Infectious Anemia (EIA), commonly called swamp fever, is an infectious viral disease of the Equidae family which includes horses, mules, donkeys and zebras. The virus that causes EIA is caused by a retrovirus that induces a persistent infection in equids.

The disease can appear in three forms: acute, chronic or inapparent. Acute EIA is most often associated with the first exposure to the virus, with fever and hemorrhages evident from 7 to 30 days after exposure. Acute EIA is thought to be associated with massive virus replication in and destruction of infected macrophages. In the acute form, animals are extremely sick and may die.

Chronic cases exhibit the more classic clinical signs such as anemia, intermittent fever, depression, hemorrhages, progressive weakness, loss of weight and swelling of the legs, brisket and low abdomen. Equids that have the chronic form or recover from the acute form, usually have intermittent attacks that may vary considerably in time intervals and severity of symptoms. Some horses die during these recurrent episodes.

Equids inapparently infected with EIA virus appear normal, but all infected animals remain virus carriers for life, and their blood is a potential source of infection for susceptible horses. Animals in acute stages of EIA



are thought to be the major sources of virus for transmission, but all infected horses are potential sources and pose a threat to the health of their progeny and other susceptible horses.

Transmission

EIA virus is usually transmitted by the transfer of blood from infected horses to susceptible ones by large bloodfeeding insects or by man. Epidemics of EIA have been traced to the multiple use of hypodermic needles. Any nonsterile surgical equipment has the potential of spreading the disease as well. Large bloodfeeding insects in the Tabanidae family, horse flies and deer flies, are the most prevalent cause of disease transmission. The primary vector is the horse fly. Research at Louisiana State University has shown that a single horse fly can transmit the



Horse Fly

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Equine Infectious Anemia Symptoms

- **Anemia**
- **Intermittent fever**
- **Depression**
- **Hemorrhages**
- **Progressive weakness**
- **Loss of weight**
- **Swelling of the legs, brisket and low abdomen**

infection from a horse in the acute stage of EIA to a susceptible horse. Transmission of EIA virus by other means rarely occurs, but foals can be infected in utero.

Diagnosis

Equids infected with EIA will be virus carriers for life and usually develop antibodies against the virus within 15 to 45 days after exposure. Antibodies can be detected by a variety of serologic tests, and the USDA has approved the use of several specific tests. The most common serologic test for EIA is the agar gel immunodiffusion (AGID) or Coggins Test. The Coggins Test, named for Dr. Leroy Coggins who developed it, is often used synonymous with the disease it identifies.

Arkansas Requirements Governing EIA

The 1997 General Assembly passed Act 1306 regarding Equine Infectious Anemia. Act 1306 replaces previous EIA regulations effective August 1, 1997. A summary of Act 1306 is as follows:

1. All Equidae (horses, jacks, asses, jennies, mules, donkeys, burros, ponies and zebras) domiciled within the state of Arkansas and over the age of six months or weaned shall be subjected to an official EIA test every twelve (12) months. An Equidae is considered domiciled within the state when it has been pastured, stabled, housed or kept in any fashion in the state more than 30 consecutive or unconsecutive days.

2. All Equidae domiciled within Arkansas and over the age of six months or weaned from mare shall be positively identified on the official EIA test form by an accredited veterinarian or an agent of the Livestock and Poultry Commission by means of distinctive markings, color patterns, previous brand, previous tattoo, previously implanted electronic transponder number, permanent scars, other blemishes, cowlicks, whorls, lip tattoo, hot brand or freeze brand prior to an EIA test.
3. To fund this program, there will be a fee assessed to Arkansas licensed, practicing veterinarians for each Arkansas domiciled Equidae tested. The fee will also be assessed on any outofstate Equidae that is being tested at a market to be sold in Arkansas. This fee is in addition to laboratory fees for running the test. The fee is payable by the veterinarian to the Arkansas Livestock and Poultry Commission.
4. Owners of neighboring herds, whether of single or multiple ownership shall have the right to know if any equine within 440 yards are untested, exposed or reactor animals.
5. Any Equidae which have been within 440 yards of a reactor shall be subject to testing if the exposure to the reactor occurred no more than thirty (30) days prior to the testing of the reactor.
6. Reactors may be retested at the owner's expense provided the owner or owner's agent initiates a retest request to the State Veterinarian not more than five (5) working days after the receipt of the test results by the owner or owner's agent. All retest samples shall be submitted to an approved laboratory within twenty (20) days after the receipt by the owner or owner's agent of the first positive test.
7. All Equidae on affected premises shall be isolated at least 440 yards away from all Equidae on adjacent premises and at least 440 yards from any public road.
8. All reactors shall be destroyed or sold for slaughter or permitted to a research facility within twenty (20) days after the date of the last official positive EIA test.
9. Any Equidae which tested positive to the official EIA test prior to August 1, 1997, shall be quar-

antined to the owner's premises and kept at least 440 yards (previous law uses 200 yards) away from any other Equidae or public land.

10. All Equidae which are sold, bartered, traded, given free of charge or offered for sale must be accompanied by a record of a negative EIA test conducted within the previous six (6) months. Those offered through approved markets must have a current (six months) negative EIA test or blood will be taken at the market for testing, at the owner's expense.
11. All Equidae moving within the state to exhibitions, fairs, livestock shows, breed association shows, rodeos, trail rides, parades, team pennings, team ropings, race tracks or other Equidae concentration points shall be accompanied by a record of a negative current official EIA test within the past twelve (12) months. Any show or event may require any additional tests or requirements they deem necessary.
12. All Equidae entering Arkansas must be accompanied by a record of a negative current official EIA test within the past twelve (12) months and a certificate of veterinary inspection with identification and temperature of the horse(s) shown.

EIA Regulations Regarding Act 1306 of 1997

Act 1306 of 1997 allows the Arkansas Livestock and Poultry Commission to assess fees and regulations necessary to enforce the provisions set by the law. After the necessary public hearings, the following regulations regarding Act 1306 of 1997 were adopted.

1. Testing of Equidae done at approved markets may be done by licensed, accredited, practicing veterinarians or Arkansas Livestock and Poultry Commission authorized personnel. If blood is collected by Commission personnel, the cost will be \$25 per animal, payable to the market by the owner. The market shall pay the Livestock and Poultry Commission \$25 per animal tested by the Commission personnel by the 10th of the next month following the sale. If blood is collected by a practicing veterinarian, fees will be by private treaty.

2. There will be a \$3 fee assessed to Arkansas licensed, practicing veterinarians for each Arkansas domiciled Equidae tested for EIA.
3. Accredited laboratories conducting tests on samples from Arkansas Equidae or samples from sales in Arkansas shall send appropriate forms to the Arkansas Livestock and Poultry Commission by the 10th of the month following the month the test was run. Positive samples must be reported within 24 hours of classification.
4. Livestock markets must be approved by the Arkansas Livestock and Poultry Commission for selling Equidae. Markets that accept reactor or exposed animals for sale and markets that allow horses to be tested on site must have a quarantine pen that is clearly marked with a sign or paint to keep reactors and exposed horses in, as well as any Equidae that test positive at the market. They also must have a fly control program as described in the Code of Federal Regulations, Part 75: "The stockyard shall have in effect a fly control program utilizing at least one of the following: baits, fly strips, electric bug killers (Fly Zappers, Fly Snappers, or similar equipment), application of a pesticide effective against flies, applied according to the schedule and dosage recommended by the manufacturer for fly control."

The quarantine pen must be far enough from the area where negative tested animals are kept that, in the opinion of the inspector, the negative tested Equidae will not be exposed.

Markets that handle only Equidae with current tests (conducted within the last six (6) months) are not required to have a quarantine pen or fly control program.

5. When a reactor Equidae is detected, all Equidae within the affected and adjacent herds will be quarantined by an authorized agent of the Arkansas Livestock and Poultry Commission. All Equidae in affected and adjacent herds will remain quarantined until all are tested negative at least 60 days and no more than 80 days after the removal of the reactor.
6. Deviations in testing and quarantines are acceptable when they are made by the designated epidemiologist.

Act 540 of 2001

All Equidae (horses, jacks, asses, jennies, mules, donkeys, burros, ponies and zebras) over the age of six months must have an EIA test every 12 months, regardless of transportation away from premises. Further, the 2001 General Assembly passed Act 540 to amend Act 1306 of 1997. Act 540 defines and sets standards for an EIA research facility and requires a Certified EIA Verifier to be present at any equine event that meets one or more of the following criteria:

1. The event charges a fee of any kind, including an entry fee, a gate fee, a membership fee, a registration fee, a user fee, a camping fee or a grounds fee.
2. The event provides prize money, trophies, plaques, ribbons, points or awards of any kind including jackpot and benefits.
3. The event causes a concentration of more than fifty (50) Equidae.

It is the event sponsor's responsibility to have a Certified EIA Verifier present!

A Certified EIA Verifier is an individual that has completed a Verification Course cosponsored by the Arkansas Livestock and Poultry Commission, Cooperative Extension Service, University of Arkansas, and the Arkansas Horse Council. Certification is for one year. A list of Certified EIA Verifiers is available from the Arkansas Livestock and Poultry Commission.

Penalties and Fines

Any person, firm or corporation who violates any of the provisions of these acts shall, upon conviction, be guilty of a Class A misdemeanor; which is punishable by up to one year imprisonment and/or \$1,000 fine.

The control of EIA in Arkansas will require full cooperation of all horse owners to be effective. Knowledge of the disease and compliance of the current laws and regulations could lead to effective control of this important disease of the Equidae family.