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Equine Infectious Anemia (EIA)

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Equine Infectious Anemia (EIA) has become a concern to horse owners in the United States and many other countries in recent years. The disease has become widespread although it has not infected large numbers of horses, mules, or burros (equine).

The disease was first described in Europe in 1843 and by 1880 was recognized in Canada. It has existed in the United States for at least 80 years, and has been reported in at least 42 of the 50 states.

Equine Infectious Anemia or "Swamp Fever" is an acute or chronic infectious disease of all equine. Caused by a virus, it is characterized by intermittent fever, marked depression, progressive weakness, loss of weight, swelling, congestion, and yellowing (icterus) of the mucus membranes. The anemia can be either progressive or transitory. Equine which survive the disease carry the virus in their blood and can serve as a source of infection for other equine.

EIA can be transmitted to other horses by any mechanism that transfers blood containing the virus organisms. Biting flies, mosquitoes, lice, and other biting insects are known to spread the disease. Man can spread the disease by using unsanitary and improperly sterilized hypodermic needles, or surgical and tattoo equipment. The virus has been found in semen of stallions. Evidence suggests the disease can be transmitted to the mare during breeding and from the mare to the foal during pregnancy or nursing.

The incubation period for EIA is usually about 12 to 15 days but can vary from a few days to 3 months or longer. Clinically, the disease may assume acute, subacute, chronic, and asymptomatic forms. The acute form is characterized by a high fever—105 to as high as 108°F.—that may last 3 days or longer. Some animals will die during the acute form but most progress to subacute or chronic forms.

In the subacute or chronic forms, fever recurs at intervals with periods when the animal appears normal. As the disease progresses, anemia may become more pronounced re-

sulting in liver damage and a decreased production of red blood cells. Some horses become progressively weaker during these stages and die. From 30 to 70% of affected animals die of the disease.

Animals that survive progress to the asymptomatic or inactive form of the disease. In this form, animals regain a normal appearance but remain carriers. They may at any time relapse to the subacute or chronic forms. Unusually hard work, any disease, or stress may reactivate the infection.

No specific treatment is available for EIA, although several laboratories are working to produce an effective vaccine. As in most viral diseases, we do not have drugs to kill the virus itself. Nothing has been developed to eliminate the carrier state. Supportive type treatment is recommended to control secondary bacteria and alleviate symptoms.

Control and Eradication Program

A diagnostic test was perfected in 1973 by Dr. Leroy Coggins, veterinary virologist at Cornell University, to identify EIA from a blood sample of an equine. With this test, one can determine with more than 95% accuracy if an animal is infected with EIA. The Coggins test is now recognized by the U.S. Animal and Plant Health Inspection Service as an official test and is being conducted in about 100 laboratories in the United States.

Most states have adopted measures to control EIA. Some require all horses which are imported from another state have a negative test before entry. Some have voluntary testing programs within their states to establish clean herds.

In most states where equine herds have positive animals, the herd is quarantined until the positive ones are branded and slaughtered. Slaughter is necessary because the carrier state cannot be treated and the positive animals will spread the disease.

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The Idaho Department of Agriculture has proposed the following rules and regulations concerning Equine Infectious Anemia:

1. All equine must have a negative test against EIA within 12 months before being imported into Idaho with the exception of horses going to licensed auction markets or horses going to slaughter. Those going to auction markets must be tested negative upon leaving the saleyard unless they are going to slaughter.
2. All out of state horses must be accompanied by a health certificate issued by a licensed and accredited veterinarian certifying that the horse has been found negative to EIA within 12 months.
3. Horses and other equine found positive will be quarantined to the premises of origin. If a horse is found positive on premises other than the owner's, it may be moved to the owner's premises and kept isolated from other equine. Other equine on the premises can be moved only after they are tested and found negative until such time as the positive animal is destroyed.
4. Horses and other equine positive to the test will be branded on the left side of the neck or left shoulder with a hot or cold brand with the number 82 followed by the letter "A". A lip tattoo can also be used. Branding is to be done by a State or Federal employed veterinarian.

The EIA test is not now required for horses coming into Idaho from out of state but the Idaho Department of Agriculture will probably impose EIA regulations during 1976.

Although technically possible to eliminate EIA from infected equine herds by Coggins testing and prompt removal of reacting animals, the procedure in individual herds will require professional judgment and sound understanding of the disease and principals involved in its eradication. Several variables are involved including the season of the year, insect vector populations and control activities, corral and stable sanitation, frequency of Coggins testing and quarantine, and good cooperation and management on the part of the horse owner.

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