

Trends in Equine Infectious Anemia (EIA)—Testing and Owner Familiarity

Background on EIA

Infection with the EIA virus can result in several different clinical signs: fever, anemia, pale or jaundiced mucous membranes, poor performance, weight loss, inappetence, and swelling in the limbs. Some equids infected with EIA can appear clinically normal; these equids are known as inapparent carriers.

One priority of the U.S. Department of Agriculture’s National Animal Health Monitoring System’s (NAHMS) Equine 2015 study was to look at how EIA testing and equid owners’ familiarity with the virus have changed from 1998 to 2015. To do so, data from two previous NAHMS equine studies conducted in 1998 and 2005 were compared with data from the Equine 2015 study.

All three studies represented at least 70 percent of U.S. equids and at least 70 percent of U.S. farms with equids for the respective study year.¹

Background

The EIA virus can be transmitted from an infected equid to another equid by large biting flies, including horse and deer flies. The virus can also be transmitted iatrogenically (illness caused by medical examination or treatment) through the reuse of needles, syringes, or other intravenous equipment; by inserting a contaminated needle into a multidose vial; or by transfusing blood or sera from an infected equid.

EIA virus leads to a persistent infection. There is no treatment for the infection, and there is no vaccine to protect against it. Infected equids can be identified through serologic testing. Most equine owners are familiar with the Coggins test, but several other tests have been developed and approved for diagnosing EIA.

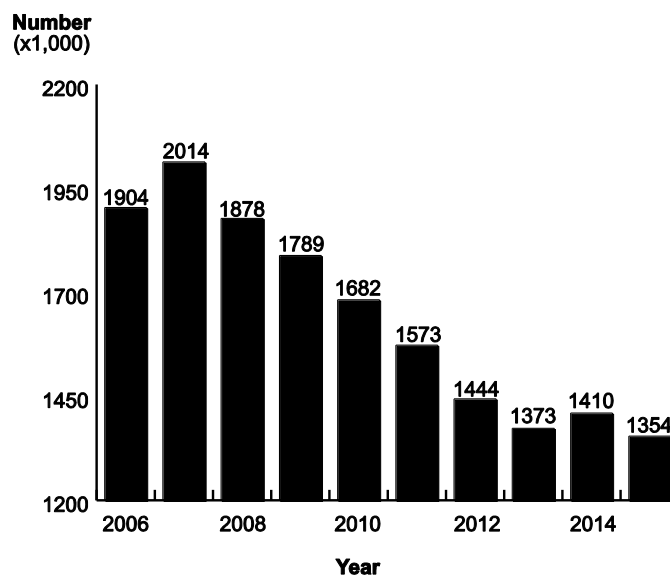
There are several reasons and requirements for testing equids for EIA. In the United States, equids imported from other countries are tested for EIA. In addition, equids traveling from one State to other States are often tested for EIA to comply with interstate

movement requirements, and equids entering competitions and events are often required to have an EIA test. Other reasons for EIA testing include change of ownership, riding on certain public lands, clinical signs of disease, and for the owner’s knowledge.

When a test-positive equid is detected, it is put under quarantine and retested. Equids confirmed positive are called “reactors” and are either euthanized or placed in life-long quarantine, at least 200 yards from other equids.

The number of EIA tests conducted in the United States decreased from 2006 to 2015 (figure 1). This decrease could be due to a decline in the equine population from 2007 to 2012 (4,312,633 to 3,913,938 equids²), changes in the frequency of equid movement or in the use of equids, or variations in data collection methods, economic reasons, or other factors.

Figure 1. Number of EIA tests performed in the United States, 2006–15



Source: USDA–APHIS–VS, <http://www.aphis.usda.gov/animal-health/equine-health>

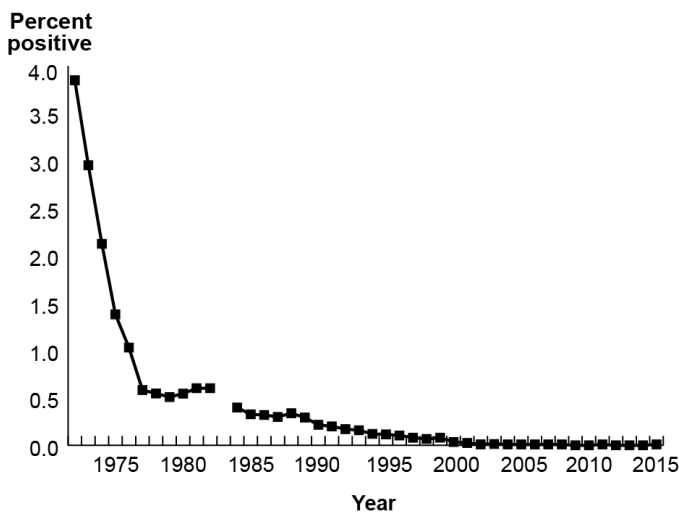
¹For more details on study design for 1998, 2005, and 2015, see the descriptive reports available on the NAHMS Web site: (www.aphis.usda.gov/nahms).

²NASS Census of Agriculture.

Percentage of positive EIA tests, 1972–2005

The percentage of positive tests among equids tested declined from nearly 4 percent in 1972 to less than 0.1 percent in 2005. The most dramatic decline occurred from 1972 to 1978 (figure 2).

Figure 2. Percentage of samples that tested positive for EIA in the United States, 1972–2015



Source: USDA–APHIS–VS.
Data not available for 1983.

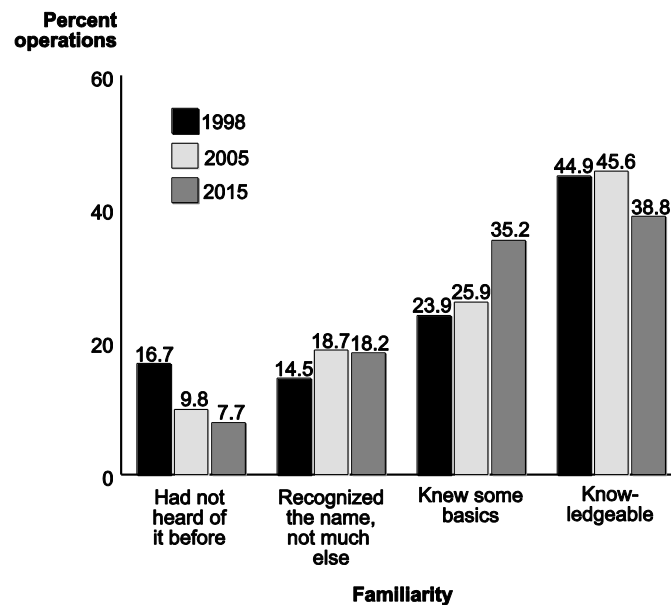
Study highlights

In each of the three NAHMS equine studies, operators were asked about their familiarity with EIA, the number of equids tested for EIA, the reason for EIA testing, and the average cost of an EIA test.

Trends in familiarity with EIA

The percentage of operations in which the operator had not heard of EIA decreased from 16.7 to 9.8 percent from 1998 to 2005 and from 9.8 to 7.7 percent from 2005 to 2015 (figure 3).

Figure 3. Percentage of operations by operator familiarity with EIA



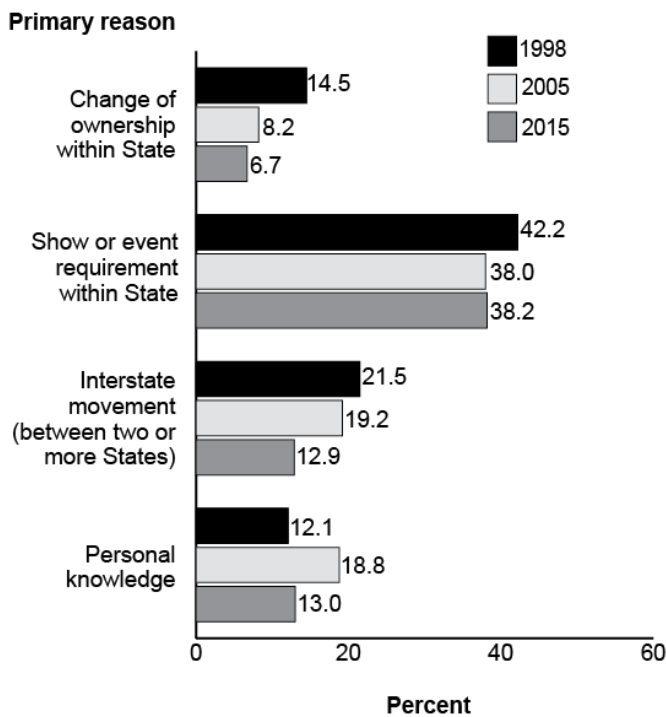
EIA testing

The percentage of operations that tested at least one equid for EIA in the previous 12 months was similar from 1998 to 2005 (58.7 and 54.1 percent, respectively) but decreased slightly from 2005 to 2015 (54.1 to 47.1 percent, respectively). The overall percentage of resident equids³ tested was similar from 1998 (36.6 percent), to 2005 (37.6 percent), and 2015 (36.8 percent). The average cost of an EIA test increased from 1998 (\$22.95) to 2005 (\$27.33) to 2015 (\$40.77).

Across study years, the highest percentage of operations reported that show or event requirements within their State was the primary reason for EIA testing; over one-third of all operations tested for EIA primarily because of show or event requirements within the State (figure 4). A lower percentage of operations tested for EIA primarily for interstate movement requirements in 2015 (12.9 percent) than in 1998 (21.5 percent) and 2005 (19.2 percent). The percentage of operations for which change of ownership was the primary reason for testing was lower in 2015 (6.7 percent) than in 1998 (14.5 percent). Testing for personal knowledge was the primary reason on 12 percent or more of operations, across studies. Primary reasons for testing infrequently listed included suspicion of disease, requirement for riding on public lands, international movement, and other.

³An equid that spent or was expected to spend more time at the operation than at any other operation. The operation was its home base.

Figure 4. For operations that tested for EIA, percentage of operations by selected primary reason(s) for testing



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Conclusion

There is no treatment for EIA and no vaccine to prevent infection.

The majority of equine owners/operators had some knowledge of EIA; a higher percentage had at least some knowledge of the disease in 2015 compared with 1998 and 2005. The average cost of an EIA test increased from 1998 (\$22.95) to 2005 (\$27.33) to 2015 (\$40.77).

For more information on trends in the U.S. equine industry see the NAHMS descriptive report "Changes in the U.S. Equine Industry, 1998–2015" at the NAHMS Web site: (www.aphis.usda.gov/nahms).