

CEI Impact Worksheet Contagious Equine Metritis Kentucky, USA December 2008

Summary

Contagious equine metritis (CEM) has been confirmed in a stallion in Kentucky, United States of America (U.S.). The last CEM outbreak in the U.S. was in 2006. Prior to the 2006 outbreak, the last cases reported in the U.S. were in 1979. Due to the current epidemiologic evidence, this outbreak has the potential to affect the export of horses, semen and embryos. The estimated potential value of this export market is \$415 million/year.



Current Outbreak and Status of CEM in the United States

On December 15, 2008, the National Veterinary Services Laboratories (NVSL) confirmed culture-positive CEM in a 16-year-old American Quarter Horse stallion currently residing in Woodford County, Kentucky. The positive horse is a clinically healthy stallion that was identified during routine testing prior to export of semen. This is the first time this horse has been tested for CEM; the horse was born and raised in the U.S., with no foreign travel history. The stallion was not thought to have been used for natural service of mares. The affected premises are under quarantine, and an epidemiological investigation is underway. Seven other stallions and two mares are residing on the index premises; all are undergoing testing

for CEM. Trace-outs and testing of horses exposed via semen are in progress.

Initial traces from the index case include 18 States and Canada.

The last reported CEM outbreak in the U.S. was in 2006, when it was found in three Lipizzaner stallions imported to the U.S. (Wisconsin) from Eastern Europe. No other cases were traced to these animals, and potential exposure of other animals was low. Prior to the 2006 outbreak, the last cases reported in the U.S. were in 1979.

Sources:

OIE Immediate Notification Reports:

http://www.oie.int/wahis/public.php?page=single_report&pop=1&reportid=3412

Accessed 12/18/08

Distribution, Pathogenesis and Epidemiology of CEM

CEM is a sexually transmitted disease among horses caused by *Taylorella equigenitalis*, a gram-negative coccobacillus. Up to 40% of affected mares may have mucopurulent vaginal discharge, and may exhibit abortion or infertility. Mares can become chronic carriers of CEM. Stallions typically show no clinical signs. Transmission rate is high. CEM is diagnosed through culture and isolation of the organism, which can be technically difficult; *Taylorella equigenitalis* is slow-growing, microaerophilic, and drug sensitive; false negative results are possible in an affected horse. The sensitivity of the culture testing is difficult to quantify; it is highly dependent upon quality of samples, proper sample handling, and proper laboratory technique. Even with excellent sampling and laboratory technique, colony formation of *Taylorella equigenitalis* can be obscured by faster-growing bacteria in the sample.

In 2008, the only countries besides the U.S. reporting presence of CEM were 7 European countries (Belgium, Czech Republic, France, Germany, Spain, Switzerland, and United Kingdom). The difficulty in isolating the organism creates imprecise disease distribution data.

Sources:

http://www.oie.int/wahis/public.php?page=disease_statuses_lists
<http://www.zoologix.com/horse/Datasheets/ContagiousEquineMetritis.htm>
<http://www.merckvetmanual.com/mvm/index.jsp?cfile=htm/bc/111004.htm>

Accessed 12/18/08

Quarter Horse Industry in the United States

The American Quarter Horse is the most popular breed of horse in the world. The American Quarter Horse Association's (AQHA) 2007 Annual Report states that the number of registered horses worldwide is 3,218,133. The United States has the vast majority of registered horses (2,859,851), with Canada having 236,690 and an additional 121,592 horses spread among 85 countries. The top ten U.S. States/Canadian provinces having American Quarter Horses, based on AQHA registrations, are Texas, Oklahoma, California, Missouri, Alberta, South Dakota, Nebraska, Montana, Kansas, and Iowa.

The American Quarter Horse industry is highly diverse, and includes racing, showing, breeding, and recreation. In 2007, the purses for American Quarter Horse racing totaled \$123,042,699, among 9,274 races with 16,607 starters. There were 2,449 AQHA-approved shows held worldwide in 2007, with 860,529 total entries. The economic value of breeding to the American Quarter Horse industry is not easily quantified, but in 2007 a total of 117,830 new registrations were added to the breed registry; this is more than three times the number of new registrations of Thoroughbreds to the Jockey Club

registry in the same year. A 2005 study of the U.S. horse industry, commissioned by the American Horse Council Foundation, stated that Kentucky's share of the industry produces goods and services valued at \$2.3 billion annually.

Sources:

http://www.aqha.com/association/pdf/07_AnnualRpt.pdf
<http://horsecouncil.org/publications.html>

Accessed 12/18/2008

International Exports of Horses, Semen and Embryos

The U.S. exported 99,095 live horses (all breeds) in 2007, valued at over \$444 million. From January through October 2008 the U.S. exported 128,696 live horses, valued at over \$353 million. In both 2007 and 2008 over 90 percent of exports were sent to Mexico and Canada.

The U.S. exported 25 embryo straws and 38,146 semen straws in 2007. From January through October 2008 the U.S. exported 1,401 embryo straws and 32,556 semen straws. Precise values of the exported semen straws are not available, but an estimated range based upon market prices is \$200–\$500 per straw. Exported embryo prices are also not available; however, an estimated range based upon market prices is \$4,000–\$10,000 per straw. This could equate to a range of values for semen and embryos of \$7,729,200 to \$19,323,000 in 2007 and \$12,115,200 to \$30,288,000 from January through October 2008.

Table 1: USA exports of live horses by country

Country	2007		Jan–Oct 2008	
	No.	\$mil	No.	\$mil
Canada	46,991	47.1	66,862	44.5
Mexico	45,299	23.1	56,278	26.7
Netherlands	960	5.1	1,021	4.7
United Kingdom	801	121.9	462	74.8
Venezuela	681	2.6	634	3.1
Ireland	662	73.0	294	49.2
Other	3,701	171.4	3,145	150.6
Total	99,095	444.2	128,696	353.6

Table 2: USA exports of semen and embryo straws

Item	2007	Jan–Oct 2008
	No.	No.
Semen straws	38,146	32,556
Embryo straws	25	1,401

Implications

Due to the current epidemiologic evidence, this outbreak has the potential to affect live horse, semen and embryo exports. The estimated potential value of this export market is \$415 million for 2008.¹

Other potential costs will likely be felt domestically, such as those related to movement restrictions, trace-backs and increased testing.

CEI's plans for follow up:

CEI will continue to monitor the situation but has no plans at this time to issue additional reports. If you would like additional information or would like to comment on this worksheet, you may reply to this message, or contact the Center for Emerging Issues at (970) 494-7001 or cei/aphis/usda@aphis.usda.gov.

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¹ This is a low estimate using partial year data; the actual value will be higher.