Contagious bovine pleuropneumonia

General Disease Information Sheets

What is Contagious bovine pleuropneumonia

Contagious bovine pleuropneumonia (CBPP) is a disease of cattle and water buffalo caused by *Mycoplasma mycoides subsp. Mycoides* (*M. mycoides*). As the name suggests, it attacks the lungs and the membranes that line the thoracic cavity (the pleura) causing fever and respiratory signs such as laboured or rapid respiration, cough and nasal discharges.

Because it is highly contagious with a mortality rate of up to 50%, it causes significant economic losses. CBPP is a prominent cattle disease in Africa.

CBPP is a disease listed by the OIE in the *Terrestrial Animal Health Code*. Member countries are obligated to report occurrences of the disease according to the standards in the OIE *Terrestrial Animal Health Code*.

CBPP is one of the diseases for which the OIE has official recognition status. The OIE *Terrestrial Animal Health Code* specifies the steps a country must follow in order to be officially recognized by the OIE as free of CBPP.

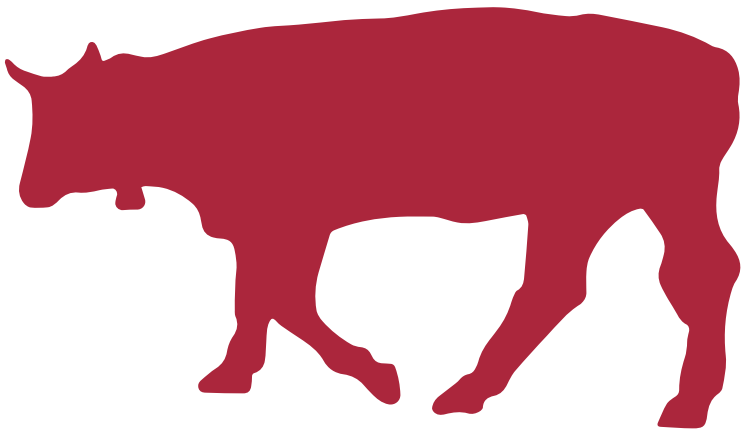
Where is the disease found?

CBPP was known in Europe as early as the 16th century. It was spread throughout the world by increased international trade in live cattle in the second half of the 19th century. Stamping out policy eradicated the disease from many countries; however it currently persists in sub-Saharan Africa.

How is the disease transmitted and spread?

Transmission of the disease occurs through direct contact between an infected and a susceptible animal which becomes infected by inhaling droplets disseminated by coughing. Since some animals can carry the disease without showing signs of illness, controlling the spread is more difficult.

There is no evidence of transmission through fomites (inanimate objects such as clothing, implements or vehicles) as the organism does not persist in the environment.



What are the clinical signs of the disease?

CBPP is manifested by loss of appetite, fever and respiratory signs, such as rapid respiratory rate, cough and nasal discharges and painful, difficult breathing. In hot climates, an affected animal often stands by itself in the shade, its head lowered and extended, its back slightly arched, and its limbs turned out. In many cases, the disease progresses rapidly, animals lose condition, and breathing becomes very laboured, with a grunt at expiration. The animals become recumbent (lie down) and in severe cases die after 1-3 wk.

The mortality rate may be as high as 50% in the absence of antibiotic treatment. However, clinical signs are not always evident. Subacute or asymptomatic forms can occur as affected animals partially recover after a period of three to four weeks. However, these cattle may be capable of spreading the disease, acting as unapparent carriers.

How is the disease diagnosed?

The diagnosis is based on isolation of *M. mycoides* from samples such as nasal swabs and/or lung washings or pleural fluid obtained by puncture, or necropsy samples. The *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals* details the diagnostic procedures for CBPP.

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What is being done to prevent or control the disease?

The main problems for control or eradication are the frequent occurrence of subacute or unapparent infections and the persistence of chronic carriers after the clinical phase.

In most continents, control strategies are based on the early detection of outbreaks, control of animal movements and a stamping-out policy. This has successfully eliminated the disease from North America and Europe. In Africa control of the disease is currently based mainly on vaccination campaigns.

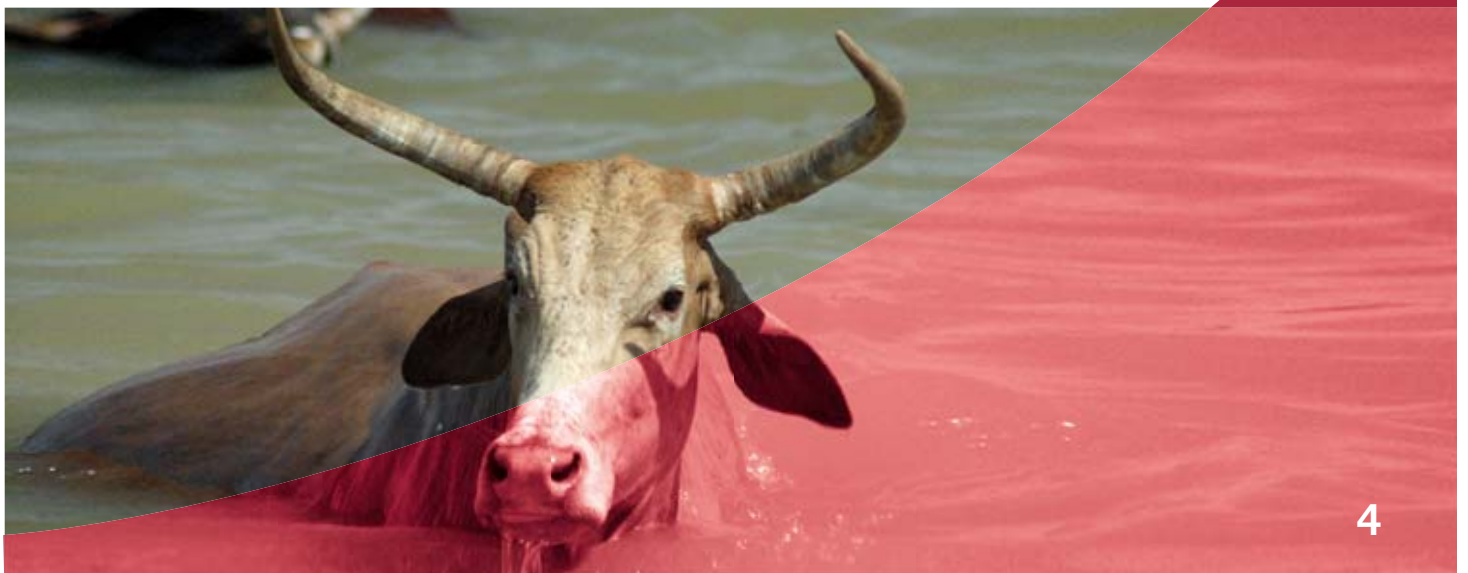
Surveillance of the disease through slaughterhouse inspection is a very efficient method of detecting clinical cases.

Treatment of affected animals with antibiotics can result in healthy looking animals that are still infected and able to spread the disease, so it is not recommended.

Vaccination with an attenuated strain of the bacteria is used to reduce the level of infection. Vaccine is produced following the guideline in the OIE *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals*.

What is the public health risk associated with this disease?

Humans are not known to be susceptible to contagious bovine pleuropneumonia, so there is no public health risk.



More Information?

References:

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2. OIE *Manual of Diagnostic Tests and Vaccines for Terrestrial Animal:*
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3. OIE Technical Disease Card:
   www.oie.int/en/animal-health-in-the-world/technical-disease-cards/

4. The Center for Food Security and Public Health, Iowa State University
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5. Merck Veterinary Manual:
   www.merckvetmanual.com/mvm/index.jsp?cfile=htm/bc/toc_50000.htm

6. *Atlas of Transboundary Animal Diseases Animales Transfronterizas*
   P. Fernandez, W. White; Ed.: 2011

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www.oie.int/en/our-scientific-expertise/reference-laboratories/list-of-laboratories/

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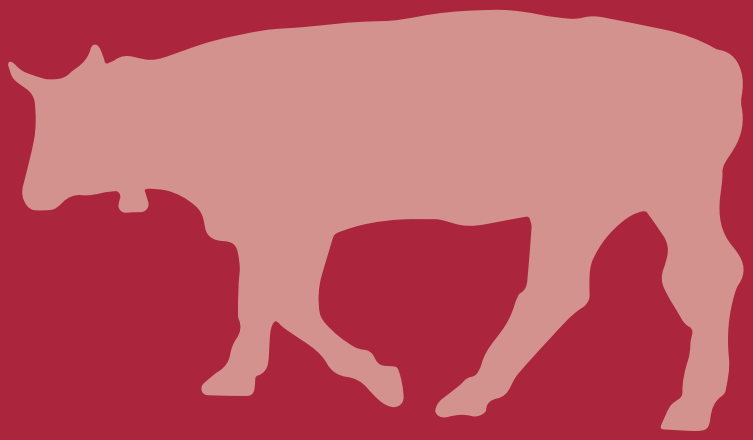

Key Facts

- One of the three great historic cattle plagues of the world, (along with Foot and Mouth Disease and Rinderpest), CBPP was first recognized in Germany in 1693. The history of its introduction to countries and subsequent eradication often parallels the development of veterinary services.

- The USA has been free of the disease since 1892, the UK since 1898, Zimbabwe since 1904, South Africa (where the disease was introduced by the importation of infected bulls from Holland in 1853) since 1924, Australia since 1970s and China since the 1980s.

- After its elimination from Europe in the nineteenth century, the disease reappeared in Portugal and Spain in 1951 and 1957, respectively. A few outbreaks were reported in southern France, the latest in 1984. In Italy, the disease reappeared in 1990 but was eliminated by 1993, and the last case in Europe was in Portugal in 1999.

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