Bacteria in the mare uterus: What’s out there?

By Josette Fretton

A review of types of bacteria that cause equine endometritis – infection of the lining of the uterus in mares: which factors affect the results and which antibiotics we can use to treat it.

Endometritis is a significant disease in horses that can cause infertility in mares, which decreases breeding efficiency and financial returns on commercial studs. Twelve published scientific papers were reviewed and the results compared to gain an understanding of which factors affect the percentage of mares affected by endometritis, and type of bacteria found. These factors were related to either the mares used in the studies, or the samples taken by the researchers. Mare factors included location and the reason for selecting particular mares into a study, and sampling factors included method of sampling and type of sampling facility.

The most common types of bacteria that caused equine endometritis were β-haemolytic Streptococcus species, which causes a large amount of inflammation, and Escherichia coli, which causes less inflammation than Streptococcus. The most significant factor affecting results was the reason for selecting mares – when mares were purposefully selected for studies based on their breeding history, the likelihood of finding bacteria in samples from the uterus was higher, but there was no effect on the type of bacteria found. Location and sampling facility did not affect the likelihood or type of bacteria found. Results and types of bacteria varied when different methods of sampling and testing were used, but there were no consistent results for any particular sampling method. The types of antibiotics used to treat infections have changed over the years, and bacteria from uterus samples have developed resistance to commonly used antibiotics including penicillin.

This review, although limited in outcomes in that only one factor could be identified as affecting the bacteria found in endometritis, strongly suggests that testing of mares with fertility problems should include multiple sampling methods to ensure that bacteria are correctly identified, and treated with effective antibiotics.