

CREDESCENCE TRIAL REPORTS

CREDESCENCE AND MYCOPLASMA BOVIS CONTROL

Credence contains a stabilised form of chlorine which is known as troclosene (sodium dichloroisocyanurate, or NaDCC) –which is quick to act on contaminants (at 15 minutes or less). Its fizzing action releases a form of chlorine ensures contact even in wood, concrete and complicated equipment. At correct dose levels, Credence is effective across a large pH range, controlling enveloped and unenveloped viruses, algae, fungi, yeasts, mycoplasmas, bacteria and protozoa (Sen, 2016). It is not degraded by UV, giving it long lasting persistency.

Mycoplasma bovis first affected New Zealand farms in 2017, after being imported into the country in infected bull semen probably in 2015. The ‘eradiction program’ employed was very slow and expensive. This is because *M. bovis* is a bacteria that produces large amounts of thick, anaerobic biofilm, effectively hiding it from the effects of conventional disinfectants. It has a unique membrane structure, which is impermeable to conventional antibiotics (penicillin and β -lactams), allows the bacterium to reconfigure this structure and makes it highly virulent. It causes respiratory disease in cattle (Maunsell and Donovan, 2009), dullness, anorexia, fever, mastitis, swollen joints, lameness and muscular atrophy. Economic losses of €576 per year in Europe, due to poor growth and carcass values and loss of milk yield.

Minimum inhibitory concentration tests have shown that disinfecting concentrations of Credence can eliminate *M. bovis* on farms, and should be part of standard biosecurity and cleaning, for example, in advance of calving, of sheds and equipment. It is needed in strong concentrations in order to effectively penetrate biofilm.

Concentration needed of Credence against *M. bovis* compared to *E. coli*

Bacterium	<i>E. coli</i>	<i>M. bovis</i>
Credence concentration	100 ppm*	1000 ppm

*0.1 g/litre; 1 g/litre

Credence is effective against *M. bovis* (under standard MIC testing) for biosecurity, cleaning sheds and equipment. It can help control initial contamination by the bacterium when applied in drinking water and milk. Credence is safe for animals and humans and does not require rinsing following application at recommended concentrations, giving it long persistency. It does not present any harm to the environment (EU and Brazilian testing). Credence has been approved by MPI.

Credence is low odour, much less toxic and corrosive compared to other disinfectants. Other sanitisers and disinfectants are toxic and corrosive and cannot be used on skin or ingested in drinking water, as Credence can, at its appropriate concentrations.