

**Project Title:**

Virulent *Rhodococcus equi* decontamination strategies on horse farms

**Project Supervisor:**

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**One Sentence Project Summary:**

An investigation into potential disinfectant agents that could be used on farms to reduce environmental virulent *Rhodococcus equi* burdens.

**Project Synopsis:**

The aim of this project is to investigate disinfectant agents (such as, lime, chlorine and the common phenols and quaternary ammonia compounds) that could be used in the field to effectively kill virulent *Rhodococcus equi*. The experiments will commence by examining the effects of the various agents on the growth of virulent *R. equi* under standard culture condition, then evaluating their impact on the growth of virulent *R. equi* in inoculated soil samples from Thoroughbred breeding farms in the Hunter Valley. Bacterial growth will be evaluated using standard spectrophotometer methods complemented by direct dilution plating and PCR analysis to evaluate virulence of the organism. Once the laboratory findings have been evaluated, evaluation of the agent(s) in the field will be contacted. In this process the agent(s) impact will be evaluated through seasonal monitoring of the bacterial levels and the prevalence of *R. equi* pneumonia on participating farms. Safety issues will also be assessed in a small scale study on horse environments at the Camden campus.

At the conclusion of this project, findings will indicate whether disinfectant agents could be used to reduce the concentration of virulent *R. equi* on Thoroughbred breeding farms and it may result in the production of national and internationally recognized management practices to reduce the significance of *R. equi* pneumonia in the equine breeding world.

**Other Information:**

Currently a pilot project in this field is funded through an internal Faculty of Veterinary Science grant, with plans to apply for more funding in 2009 and beyond.

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