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Novel *Mycoplasma hyosynoviae* vaccination of one herd failed to prevent lameness in finishing pigs

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Infection with *Mycoplasma hyosynoviae* (*M. hyosynoviae*) is a known cause of arthritis and lameness in finishing pigs. Although antibiotic therapy will cure many cases, other ways of preventing *M. hyosynoviae* arthritis are warranted. The National Veterinary Institute has recently developed a *M. hyosynoviae* vaccine formulated with formalin-fixed whole-cell *M. hyosynoviae* and CAF01 (Statens Serum Institut, Denmark) as an adjuvant. This vaccine has recently shown promising results in experimentally infected pigs with development of both humoral and cell-mediated immune responses. The objective was to test this novel vaccine in a field trial in one Danish herd with recurrent arthritis problems due to infection with *M. hyosynoviae*. A total of 399 weaner pigs were included in a clinical trial. The pigs were vaccinated twice, two and five weeks after weaning. Half of the pigs were vaccinated with the novel *M. hyosynoviae* vaccine, and the other half were placebo injected (adjuvant + buffered saline). Two ml doses of both were injected intramuscularly in the neck. Vaccinated pigs and placebo pigs were mixed in the pens. There were no cases of lameness until the pigs were moved to the finishing unit at a bodyweight of 30 kg. In the finishing unit, arthritis due to infection with *M. hyosynoviae* was diagnosed by culture before and during the vaccine trial. Lameness was recorded in 23% of the vaccinated pigs and in 28% of the placebo pigs. The data were analysed by logistic regression, and no significant difference in the prevalence of lameness was found ($P=0.157$). All lame finishers were treated with Lincosin[®] and Flunixin[®] by injection for three days. In conclusion, this novel *M. hyosynoviae* vaccine could not successfully prevent the development of lameness in finishing pigs presumed to have been caused by *M. hyosynoviae* arthritis.