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CONTROL OF BOAR SEMEN DOSES INFECTIONS BY *SERRATIA MARCESCENS*

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Introduction

Serratia marcescens is a motile, Gram negative, rod-shaped facultative anaerobe, opportunistic pathogen and that presents actually several strains with multi resistance to commonly used antibiotics (Hejazi, 1997). The species occurs in the natural environment, including soil, water, air and surfaces of plant parts. In pig farms, even following the routine cleaning and control measures to reduce bacterial growth, resistant strains of this bacteria may contaminate a boar stud, laboratory's water distillation and delivery system used for extension and raw semen collected from boar.

Materials & Methods

In this the present study, we report a case of a boar stud which had difficulty to control contamination of semen doses. Internal quality control detected a decrease in the gross motility just after collection apparently linked to some breeds of boars. External quality control found that extended semen showed a poor quality after 12 hours of preservation (Total motility: $55.3\% \pm 16$) and high sperm clumping. Contamination could be easily seen by direct observation at microscope (400 x).

To control the effects of bacterial contamination, boar stud started using Dicol® till the final diagnosis and treatment of the problem.

Semen of 20 boars were splitted into two groups. Group one standard procedure and the group two treated with Dicol® (collection extender: 150 milliliters of Dicol in the collection flask and incubation during 40 minutes until final dilution). Samples of semen doses and raw semen from all groups were sent to a diagnostic lab in order to make bacteriological culture, isolation and identification.

Semen samples were tested by using CASA System (ISAS Proiser, Spain) at 12, 24, 48 and 96 hours.

Results and Discussion

Statistical significant differences between groups were seen in terms of total motility at 12, 24, 48 and 96 hours (For Dicol®: $92\% \pm 6$; $88\% \pm 8$; $84\% \pm 9$; $81\% \pm 11$ respectively and control group: $59\% \pm 14$; $26\% \pm 25$; 0% ; 0% $p < 0.0001$).

Results of total viable bacterial counts and strains identification showed the presence of *Serratia marcescens* in semen and in seminal doses without Dicol® but absence in all analyzed samples using Dicol®.

Bacteriological isolation is as follows:

Uncountable for seminal doses without Dicol® and raw semen. Countable (below 300 c.f.u./ml) for: 2 seminal doses with Dicol®, Absence for: 18 seminal doses with Dicol®.