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## CASE OF *SERRATIA MARCESCENS* OUTBREAK IN A BOAR STUD

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### Introduction

*Serratia marcescens* is a Gram negative bacteria, facultative anaerobe, opportunistic pathogen from the Enterobacteriaceae family. It can be present in the intestinal flora of animals and humans, environment, nutrient-poor reservoirs as drinking water, pipes, soaps. The common sites of colonization are the respiratory secretions, wounds and urine. In boar studs, even existing a hygiene program, it can cause severe damage in seminal doses. In this work we report a case of *Serratia marcescens* outbreak in a boar stud.

### Materials and Methods

Case description: Internal quality control demonstrates a lack of seminal doses to achieve the target of preservation during 72 hours. Semen doses filling and packaging is done by 3 kind of machines producing bags, tubes, and bottles. A bad conservation of semen doses packaged only in bags is observed after 1 day of storage, even if same ejaculate was packaged in several systems. Microscope observation of seminal doses packaged in bags shows clumping of sperm and turbidity.

In this case, we suspect that the problem could be due to the content and not to the container because of the evident differences between samples of the same boar in different packaging. The cytotoxicity should not be microscopically seen.

In order to guarantee no differences between samples we proceeded to extend ejaculates from thirty boars. Ejaculates

were divided into 2 groups. Group one is splitted in three subgroups and processed in several equipments for bags, bottles and tubes. The second group was filled manually by sterile syringe into bags, bottles and tubes at the same dilution rate. All filled semen doses were analyzed for its conservation ability and contamination by external laboratory.

### Results and Discussion

The bacteriological study exhibited uncountable presence of *Serratia marcescens* in the altered conservation doses but not in the unaltered ones.

These results discard the contamination of boars or bag toxicity.

Even the filling tubes of all machines are usually disinfected and cleaned by the same procedure, only the bag filling machine tube was the focus of contamination by *Serratia marcescens*. This strain showed multiresistant attitude and was spermicidal.

This outbreak was detected by the internal quality control and diagnosed and confirmed by collaboration between both, internal and external quality control. An accurate hygiene program was set up into the boar stud to avoid future problems.

The external audit demonstrated that differences between conservation in different packages was due to the fact that samples were not prepared in the same way (only semen packaged in bags flowed through the filling tubes).

It would be interesting to find out the primary focus of contamination.