MODULISTICA DI PRESENTAZIONE

PROGETTI DI RICERCA CORRENTE 2014

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Titolo del progetto:

Paratubercolosi bovina-bufalina nel Lazio. Verifica dei trattamenti per il risanamento del colostro .

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SUMMARY

Mycobacterium avium subsp. *paratuberculosis* (MAP) order Actinomycetales, familia Mycobacteriacae, genus Mycobacterium is causative agent of Paratuberculosis (Johne's disease) in ruminants (cattle, buffaloes, sheep and goats). Recent guidelines have been drawn up both for the implementation of control plans and for the health status farm categorisation in relation to bovine-buffalo cycle (GU 271 of 19-11-2013 Suppl. No. 79).

This project aims at establishing operational protocols to create a "safe bovine and buffalo colostrum" network among herds, in order to control the faecal-propagation cycle of the MAP and at the same time to technically support breeders who join the control and categorisation MAP-Free herd status plan. Project working group carried out inspections in cattle farms, taking around 600 samples of faeces, blood, milk and colostrum; same procedure was implemented in buffalo farms taking 1000 samples of blood, faeces, milk and colostrum from both negative and positive to MAP animals for the validation replicas of the real-time PCR method we have adopted. In addition, to evaluate the effectiveness of different treatments in restoring the colostrum, without affecting the maternal antibody level, 11 experimental protocols were performed.

Amongst the strategies to control *M. avium subsp. Paratuberculosis* in colostrum, thermal treatment has been for a long time, the preferred choice to reduce at minimum levels the infective load of pathogens, including MAP. The practice's weakest point, however, is with the side effect of possible degradation of the immunoglobulin fraction, resulting in a state of immune deficiency and lower protection in calves.

To deliver the expected results, the project measures the efficacy of heat treatments in decreasing the levels of MAP and other pathogens potentially present in the natural and commercial lyophilized colostrum, both in bovine and buffalo species. At the same time, it investigates on the heat treatment impact on immunoglobulin levels, which is vital to the first 48 hours after birth.

Key words: MAP- Colostrum buffalo- Real Time PCR- heat treatments temperatures.