

## 7 Summary

### Treatment of chronic endometritis with proteolytic enzymes

The object of this study was to evaluate the efficacy of a treatment of chronic endometritis with proteolytic enzymes (Masti Veyxym<sup>®</sup>). The field trial was conducted on two commercial dairy farms in the region of Brandenburg, Germany, with approximately 750 animals. All cows received a first post partum check (PPC 1) by rectal palpation of the uterus between 21 and 27 days in milk (DIM). Animals on farm A that did not show vaginal discharge as a sign for chronic endometritis were additionally examined by vaginoscopy. Dairy cows with pathological discharge or enlarged uterus were as enrolled in the study and were randomly assigned to one out of three treatment groups according to their identification number. In group "enzymes" cows received an intrauterine treatment with 20 ml of a solve containing proteolytic enzymes (Masti Veyxym<sup>®</sup>, Veyx-Pharma GmbH, Schwarzenborn, Germany). In group "PGF<sub>2α</sub>" animals received an intramuscular injection of 0,5 mg Cloprostenol (PGF Veyx forte<sup>®</sup>, Veyx-Pharma GmbH, Schwarzenborn, Germany). In group "matrix" cows received an intrauterine application of the matrix containing no enzymes (20 ml, Veyx-Pharma GmbH, Schwarzenborn, Germany). In all cows a second post partum check (PPC 2) was performed between 35 and 41 DIM using rectal palpation and vaginoscopy. Cows were treated a second time irrespectively of the gynecological examination.

A total of 1422 cows were examined and 583 of them (41,0 %) showed signs of chronic endometritis. Out of these 566 were evaluated in the study. With regard to clinical cure rate there was no significant difference between the three treatment groups. Group "PGF<sub>2α</sub>" achieved the highest clinical cure rate on farm A. Regarding the reproductive performance there were no significant differences between farm A and B and between the three treatment groups. Farm B showed a generally higher reproductive performance. There was a significant positive effect concerning the first service rate (OR = 2,26) and days open (HR = 1,25) for dairy cows on farm B. Multiparous cows showed a significantly lower odds for pregnancy (OR = 0,57). In addition, there was a significant higher chance for primiparous cows for an earlier first (HR = 0,83) and successfull insemination (HR = 0,69) compared to multiparous cows.

These results showed out that other factors than treatment group, i.e. parity and farm play an important role concerning clinical cure rate and reproductive performance. Factors like reproduction management, hygiene and nutrition on farms seem to have a great impact on aetiopathology and reproductive performance of cows with endometritis.