

## 7 Summary

### **Comparison of three reproductive programs to improve reproductive performance in a dairy herd with low estrus detection**

In this study, two reproductive management programs were compared to the conventional method of artificial insemination after heat detection in a commercial dairy herd with low estrus detection. One program, based on the preselection of an active Corpus luteum via determination of progesterone in milk, was terminated after about two months. The reproductive performance measures showed that the method applied did not offer an alternative.

The second program, the synchronisation of ovulation with timed artificial insemination (OvSynch), was compared to the conventional method of artificial insemination after heat detection in trials A and C. In trial B, two variations of OvSynch were compared to each other. For all respective trials, a cost-benefit-analysis was performed.

All cows having calved after October 10<sup>th</sup> 1998, were admitted to trial A. In trial A a voluntary waiting period (VWP) was set at 51 days. All cows in the OvSynch-program were timed artificially inseminated after the VWP. In the control group, all cows were artificially inseminated on observed estrus. Trial A showed that the reproductive performance in this dairy herd could be improved by implementing an OvSynch-program. The cost-benefit-analysis showed, that the additional costs, caused by the synchronisation of ovulation, represented only a small part of the overall cost per pregnancy. Considering profits gained by elimination of prolonged days open and involuntary culling, the OvSynch-program presented an economic advantage.

In trial B two OvSynch-programs with different breeding dates were compared. In group „early“, the VWP was set at 66 days. All cows were timed artificially inseminated after this period. In group „late“ the VWP was set at 49 days. Within 21 days after the VWP, estrus detection was performed and cows bred on observed estrus. All cows not inseminated were subsequently artificially inseminated through an OvSynch protocol. The program started at 70

days p.p., and the timed artificial insemination began at 80 p.p.. The reproductive performance parameters did not differ between groups „early“ and „late“. The overall cost per pregnancy was DM 28.10 less in group „late“ vs. group „early“. The improvement of the pregnancy rate per first service in group „late“ was not as distinct as could have been expected according to the relevant literature.

When starting this trial, a lot of cows did not meet the inclusion criteria for trial A (VWP 51 days). They had calved before October 11<sup>th</sup> 1998 and were not found pregnant at the start of this trial and subsequently considered “problem cows”. Thus, these cows were included in trial C. The treatment groups were the same as in trial A. The OvSynch program did not show an advantage over the control group in the overall evaluation. The reproductive performance measures did not differ significantly. In the cost-benefit-analysis, no advantage for the OvSynch-group could be detected, except for the primiparous cows. In this clan, the cost per pregnancy in the OvSynch-group was DM 56.76 lower than in the control group.

All trials (A, B and C) indicated that the pregnancy rate per first service was higher in primiparous cows compared to all cows.