Effect of single treatment with cloprostenol or dinoprost on estrus and reproductive performance in anestrous dairy cows after service

A. Baryczka, W. Barański, A. Nowicki, S. Zduńczyk, T. Janowski

Department of Animal Reproduction with Clinic, University of Warmia and Mazury, ul. Oczapowskiego 14, 10-719 Olsztyn, Poland

Abstract

Previous studies have compared the effectiveness of dinoprost and cloprostenol in cows yielding conflicting results. The aim of our study was to evaluate the efficacy of single treatment with cloprostenol or dinoprost on estrus and reproductive performance in cows with unobserved estrus after service. The study was conducted over four years in two dairy herds of Polish Holstein Friesian cows under a herd health program with an average milk yield per cow over 9000 L. Cows (n=523) diagnosed ultrasonographically as non-pregnant and with a corpus luteum were randomly assigned to be treated with either cloprostenol (n=261) or dinoprost (n=262). The estrus detection rates after administration of cloprostenol or dinoprost were 59.4%, and 57.6%, respectively. The difference between both groups was not statistically significant (p>0.05). Distribution of observed estrus did not differ between cloprostenol and dinoprost. There were no differences (p>0.05) between cloprostenol and dinoprost in conception rate (65.2% vs. 66.2%, respectively) and pregnancy rate (57.5% vs. 54.9%, respectively). Mean days open were similar in cows of both treatments (177.5 ± 74.6 days vs. 175.8 ± 62.6 days, respectively; p>0.05). In conclusion, data from this study showed no significant differences in estrus detection rates and fertility between cows with unobserved estrus after service treated with cloprostenol or dinoprost. Both products are equally useful for the treatment of non-pregnant dairy cows with anestrus after service within a reproductive herd health program.

Key words: prostaglandin F$_2\alpha$, silent heat after artificial insemination, fertility, cow

Introduction

One of the major factors contributing to extended interval from calving to conception is anestrus after service. Conception rates after first service of between 40-50% have been reported for high yielding cows (Lucy 2001, Dobson et al. 2008, Barański et al. 2008, Walsh et al. 2011). Thus, there are many cows which must be re-inseminated because they are not pregnant. However, only less than half of the cows that fail to conceive (non-pregnant) after service can be detected in estrus according to the expected time following insemination (Bartlett et al. 1987, Nation et al. 2001, Cavalieri et al. 2003, Chenault et al. 2003). Bartlett et al. (1987)