Prostaglandin Responses in Dairy Herd Breeding Programmes

by

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Abstract

During the recent past, use of prostaglandin F2∝ and its analogues to manipulate reproductive cycle to improve reproduction of the cows was widely practised. This study was initiated to evaluate the effects of prostaglandin on luteolytic response and rate of pregnancy in cattle.

Forty one cows were inseminated following induction of oestrus using prostaglandin analogues Fenprostalene (Syncrocept B, Syntex Agribusiness) or Cloprostenol (Estrumate, I.C.I.) at day 7 or day 14 of the oestrus cycle. Ten cows which were inseminated at oestrus were kept as controls.

Luteolysis indicated by a decline in plasma progesterone levels following treatment occurred in 45.5% and 80% respectively in cows injected with 1 mg Fenprostalene or 500 mcg Cloprostenol at day 7 of oestrus cycle. When Fenprostalene and Cloprostenol were given at day 14 of the oestrus cycle luteolysis occurred in 82% and 100% respectively. Visible oestrus was observed in 45% and 70% of cows following treatment of Fenprostalene and Cloprostenol at day 7 of the cycle. Eighty two to 88.8% animals showed visible oestrus following Fenprostalene and Cloprostenol given at day 14 of the cycle respectively. Percentage pregnancy at 8 weeks after insemination ranged from 20% to 27.3% in treatment groups whereas the control group had a pregnancy rate of 30%

The current study indicated that prostaglandins given at day 14 of the oestrus cycle resulted in a marked luteolysis than in day 7 of the cycle. Also, it was evident that Cloprostenol had a better luteolytic ability than Fenprostalene. No significant improvement in rate of pregnancy has been achieved following the treatment with prostaglandins.