

Improving fertility in Holstein friesian herd by single dose prostaglandin injection through vulvovaginal submucosal route

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Received : November 9, 2001

Accepted : March 1 2003

ABSTRACT

Single injection of prostaglandin F₂ (0.045 mg cloprostenol) was tried in a HF herd through vulvo-vaginal submucosal route for oestrus synchronisation where oestrus detection and insemination posed a lot of difficulties as the animals were reared below the optimal managemental conditions. The animals possessing a good palpable C.L. were grouped into 3 groups viz. Heifer, Milch & Dry. All the groups responded in a comparable manner and yielded an overall conception rate of 60% when A.I. was done at 72 and 96 hrs. of PG administration.

Key words - Vulvovaginal submucosal route, C.L., fertility, PGF₂α

Prostaglandin (PG) has become the drug of choice and most commonly been used in the reproductive management of cattle. One of the most widespread use of PG is in the management of apparently anoestrous cows. This problem prevails equally in individual farmers and the organised farms as well. The present experiment of PG F₂ through vulvo vaginal submucosal route has been tried in a HF herd.

The experiment was conducted in 34 HF animals maintained under below optimal managemental conditions in a private farm. Fifty animals were randomly selected consisting of heifers and 1st or 2nd calvers from both milch and dry groups reported to be anoestrous. All the 50 animals were examined per rectum out of which 34 were having a palpable C.L. on either of the ovaries.

Above cycling animals were grouped as under.

- Gr-I - 15 Heifers between age Group 2-4 years.
- Gr-II - 13 dry cows with postpartum period beyond 300 days.
- Gr-III - 6 Milch cows within 90-300 days of calving.
- Gr-IV - 6 untreated cycling cows/heifers as control.

All the animals of Gr - I, II & III were injected with PG (0.045 mg of cloprostenol contained in 0.6ml of Dalmazin, Destroizene, FATRO, SPA) through vulvo-vaginal submucosal route on ipsilateral side at zero hour (time of C.L. palpation). The animals were examined for regression of C.L. at 72 hours. The responding ones (C.L. fully or partially regressed) were inseminated with ET frozen semen obtained from Karnataka Milk producers Federation both at 72 and 96 hours.

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The non-respondents (at 72 hours) were re-examined for regression of C.L. again and A.I. thereof at 96 hours. Pregnancy diagnosis was done per-rectum at 45-60 days of A.I. The results were statistically analysed as per Snedecor & Cochran (1967) and was tabulated.

The P.G. response was the higher (84.62 %) in Gr-II then the other groups. The conception rate (CR) among different group of animals ranged from 50 % in Gr - I to 75 % in Gr - III against the control group figure of 66.67 %. The result is in agreement to the findings that more than 60 % of animals show fertile heat after 1st PG injection (Nanda, A.S., 1986). Those responding animals which failed to conceive were evaluated for their apparent causes of failure. In 2 out of 10 such cases, cause could not be ascertained and 2 cows showed uterine / ovarian pathology.

As Cloprostenol in such a lower dose is neither affecting to the normal oestrus cycle nor oestral behaviour of cattle (Cooper, 1974 & Wenzel, 1991), hence can be safely and effectively used for improving fertility.

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