

Reducing the Dose of GnRh in Heat-Synch Programs in Dairy Cows

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Introduction

One of the objectives of dairy cattle producers is to enhance the cost-effectiveness of the reproductive programs. This study was conducted to compare the effect of two doses of GnRH analogue (full dose and half-dose) used in Heat-Synch programs on pregnancy rates and days open of Holstein dairy cows.

Materials and Methods

Dairy cows (n=144) with a voluntary waiting period of ≥ 50 days were randomly assigned into three groups. On Day 0 of the program, cows in group one (n=40) and two (n=45) received an intramuscular injection of 7.5 and 15 μ g GnRH analogue (Luliberin, Aburaihan, Iran), respectively. On Day 7, cows in both groups were given an intramuscular injection of prostaglandin F2 α analogue (500 mg cloprostenol, Aburaihan, Iran). On Day 9, cows in these groups received an intramuscular injection of 1 mg estradiol benzoate (Aburaihan, Iran). Estrous detection was performed within 48 hours after estradiol injection. Cows displayed standing estrus were inseminated with frozen semen. Those that did not display estrus were in-

seminated blindly at 48 hours after the estradiol injection. Cows in the third group (control) did not receive any treatment and were inseminated 12 hours after displaying standing estrus. Pregnancy was diagnosed by rectal palpation on Day 40 after AI. The number of days open and pregnancy rates were analyzed using ANOVA and Chi-square tests, respectively.

Results

The number of days open did not differ among experimental groups (Group one: 104.17 ± 7.79 days, Group two: 106.28 ± 6.24 days) and the control group (111.86 ± 2.33 days) ($P > 0.05$). Pregnancy rate to the first service was not different among groups (Group one: 47.5%, 19/40; Group two: 46.88%, 22/45; Group three: 32.2%, 19/59; $P > 0.05$).

Significance

Reduction of the dose of GnRH analogue (Luliberin) to half of the full dose did not affect pregnancy rate and days open in dairy cows. Therefore, by using a half-dose of Luliberin, it is possible to enhance the cost-effectiveness of Heat-Synch program in dairy cows.