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Effect of Synchronization Protocols on Serum Concentrations of Estrogen and Progesterone in Holstein Dairy Heifers

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Abstract : Use of GnRH or its agonists to increase conception rates should be based on an understanding of GnRH-induced biological effects on the reproductive-endocrine system. This effect may occur through GnRH-stimulated LH surge stimulating production of progesterone by corpus luteum.the aim of this study was to compare the effects on reproductive efficiency of a luteolytic dose of a synthetic prostaglandin Cloprostenol Sodium versus ainjectable progesterone and Luliberin- A on Follicle estrogen and progesterone levels.In this study, we used45 head of holstein dairy heifersin the three treatments, with 15 replicates per treatment were performed in random groups. all the heifers before the projects is began in two steps injection 3 mL CloprostenolSodium with an interval of 11 days been synchronized and 10 days later, second injection of prostaglandin was conducted after that we started below protocol:Control group (daily sodium chloride serum injection 1 cc), Group B: Day Zero, intramuscular injection of 15 mg Luliberin- A + every other day injection of 3 cc progesterone + day 7, injection of Cloprostenol Sodium+ day 9, injection of 15 mg Luliberin- A.Group C: similar to Grop B + daily injection of progesterone after that blood samples was collected and centrifuged.plasma were analysed by ELISA.the analysis of this study uses SPSS data software package and compared between the mean and LS Means LSD test at 5% significance level was used.The results of this study shows that maximum of progesterone plasma levels were in the control gruop ($P \geq 0.05$).Therefore, daily injection of progesterone inhibit the growth CL. the most estrogen levels in plasma were in Group C ($P \geq 0.05$) thus it can be concluded, rise in endogenous estrogen concentrations normally stimulates the preovulatory LH release in heifers.

Keywords : Luliberin- A, Cloprostenol Sodium, estrogen, progesterone, dairy heifers
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