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EFFECTS OF INJECTABLE PROGESTERON, CLOPROSTENOL SODIUM AND LULIBERIN-A ON SERUM ESTEROGEN LEVELS IN HOLSTEIN DAIRY HEIFERS

Karim Shafiei[1*], Akbar Pirestani[2], Gholamreza Ghalamkari[2]
Department of Animal Science, Khorasgan (Isfahan) Branch , Islamic Azad University , Isfahan , Iran.
[*] *Email Address: shafiei_karim@yahoo.com*

INTRODUCTION: Synchronization of estrus in cattle is an effective management tool, especially when using artificial insemination. Several products are used for estrus synchronization in cows and in heifers that have started estrous cycles, but most of these products are ineffective for anestrous cows and prepubertal heifers (Melendez et al, 2006). When progesteron-releasing subcutaneous implants or injection progesteron inserts are used to synchronize oestrus up to 85% of cattle can be induced to enter oestrus between 36 and 60 houres after the end of treatment. cloprostenol sodium is kind of synthetic prostaglandin of the F2α class and its analogues and powerful luteolytic agents. They cause rapid regression of the corpus luteum and arrest its secretory activity. These prostaglandins also have direct stimulating effect on uterine smooth muscle causing contraction and a relaxant effect on the cervix and lulybrin-A have similar effects of GnRH (Bourne et al, 1980).

The aim of this prospective study was to compare the effects on reproductive efficiency of a luteolytic dose of a synthetic prostaglandin Cloprostenol Sodium versus a injectable progesteron and Luliberin- A on esterogen levels in holstein dairy heifers.

MATERIALS AND METHODS: In this study, we used a similar diet that had the same components and composition for 45 head of Holstein dairy heifers (12 to 14 mounths) in 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 *Cloprostenol Na* with an interval of 11 days been synchronized and 10 days later, secend injection of prostaglandin was conducted after that we started below protocol:

Group A: control group (daily sodium chloride serum injection), Group B: Day Zero, intramuscular injection of 15 mg *Luliberin- A* + every other day injection of 3 cc progesterone + day 7, injection of *Cloprostenol Na* + days 9, injection of 15 mg *Luliberin- A*. Group C: Day Zero injection of 15 mg *Luliberin- A* + daily injection of progesterone 3 cc+ day 7, injection of *Cloprostenol Na* + days 9, injection of 15 mg *Luliberin- A*. after that approximately 7 mL of blood was collected by puncture of the median coccygeal vein using evacuated tubes with K2 EDTA in six time. The samples were immediately placed in ice and were later centrifuged at 2,000 × g for 15 min for separation of plasma. Plasma samples were frozen at 25°C until later analysis by ELISA. the analysis of this study uses SPSS (VER.21, 2012) data software package, statistical model based on project ANNOVA were analyzed and compared between the mean and LS Means LSD test at 5% significance level was used.

RESULTS AND DISCUSSION: The results of this study shows that most estrogen levels in blood plasma were in Group C (daily injections of progesterone) and It was also observed approached estrous phase rised esterogen levels. thus it can be concluded, rise in endogenous estrogen concentrations normally stimulates the preovulatory LH release in heifers because Luliberin- A has similar role of GnRH that is caused by positive feedback effect of estradiol. increase the amount of gonadotropins rapid growth phase of the follicle to be ovulated (Christensen et al, 1991).

Keywords: Luliberin- A, cloprostenol sodium , heifers, esterogen.

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