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

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INTRODUCTION

Cattle estrous synchronization was perceived in the late 1950s and 1960s to meet an unmet need of beef cattle producers who desired to utilize artificial insemination (AI). progesterons used in cattle estrus synchronization and breeding programs can increase the percentage of the cattle (Pursley et al,1995). Cloprostenol sodium is a synthetic analogue of prostaglandin F2a. It is used as a luteolytic agent in veterinary medicine. Cloprostenol sodium-Everlight Chemical Many dairy producers are using cloprostenol to shorten cycle or induce cows to come into heat. Until recently prostaglandins were only used at herdcheck when the veterinarian palpated a corpus luteum (CL) present on the ovary of a cow open beyond the desired breeding time or 50 plus days in milk and lulybrin-A have similar effects of GnRH. The double-injection regimen of Cloprostenol was highly effective in synchronizing oestrus in heifers (Martins et al, 2011). 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 progestron 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 three 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 maximum of progesterone plasma levels were in the first gruop (control). It was also observed that with time and begin of estrus phase, estrogen levels were rising. in the other word, there is significant difference between control group and other group.the progesterone effect on hypothalamus and creates a negative feedback on produce frequency and amplitude GnRH and would be prevents the corpus luteum stimulating hormone formation (McDougall et al,2005). Therefore, daily injection of progesterone inhibit the growth CL and produced progesterone.

Keywords: luliberin- A, cloprostenol sodium, heifers, progesteron.

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