

## EFFECT OF SHORT-TERM FASTING IN THE LUTEAL PHASE ON THE SIZE OF CL AND PROGESTERONE HORMONE IN HOLSTEIN HEIFERS

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### INTRODUCTION

Since many reproductive problems closely associated with feeding, and nutritional deficiencies with unbalanced diets, are one of the causes of reduced reproductive efficiency. Today many experts, food programs as the main problem has been a lack of herd fertility in order to solve these problems to the research process. The present study was investigated the effect of short-term fasting on the size of the corpus luteum in the luteal phase and the level of progesterone hormone in Holstein heifers.

### MATERIALS AND METHODS

In this study, 20 Holstein heifers with the same age and weight was divided into two groups of 10 treatment and control groups, randomly. After synchronization of estrus cycle in heifers and entering to the luteal phase, control group were given diet two meals a day formulated according to standard tables of food (NRC, 2001) and treatment group received the same diet as a meal for 12 days. To measure the diameter of the CL within 30 hours after estrus (in the next cycle) the ovaries were ultrasound as every other day. Also, 10 ml blood sample was taken from the tail vein and was measured the LH level and progesterone hormone level at the end of estrus and the luteal phase for every other day, respectively by ELISA method.

### RESULTS AND DISCUSSION

The result of this study shows that treatment group was significantly large ( $P<0/05$ ) corpus luteum compare to the control group and ovulation rate in the right ovary was more than a left ovary. However, progesterone levels and LH significantly increased ( $P<0/05$ ) in the treatment group than the control group. In general, it is concluded that short-term fasting was affected to ovarian and sex hormones of Holstein heifers and with lower feed costs has a relatively good fertility.

**Keywords:** Short-term fasting, luteal phase, corpus luteum, progesterone hormone, Holstein heifers.

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