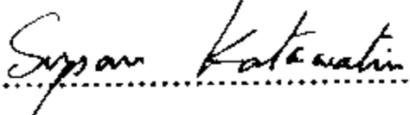


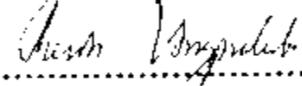
**THESIS TITLE : EFFECTS OF GONADOTROPIN RELEASING HORMONE AGONIST
AND PROSTAGLANDIN F_{2α} ON ESTROUS SYNCHRONIZATION
AND PREGNANCY RATE IN DAIRY HEIFERS.**

AUTHOR : MR. SOMKID CHAIPEECH

THESIS ADVISORY COMMITTEE :


.....Chairman
(Assistant Professor Dr. Suporn Katawatin)


.....Member
(Associate Professor Dr. Suchint Simaraks)


.....Member
(Assistant Professor Dr. Thevin Vongpralub)

ABSTRACT

To study the effects of GnRH agonist (Buserelin) and Prostaglandin F_{2α} on the expression of estrus, conception rate and pregnancy rate, two experiments were conducted using 75 % Holstein Friesian dairy heifers (n=70).

In experimental 1, the effects of Buserelin (10 µg) and PGF_{2α} (25 mg) on the expression of estrus and pregnancy rate were investigated in heifers which were allocated into 3 treatments. Treatment 1 using PGF_{2α} twice within 11 days apart. Treatment 2, PGF_{2α} was administered on day 0 and Buserelin on day 6 and then PGF_{2α} on day 13. Treatment 3, Buserelin was administered on day 0 and PGF_{2α} on day 6 and then Buserelin on day 7. The results showed that all heifers expressed behavioral estrus within 7 days after the last PGF_{2α} injection. Within 5 days after the treatments 70, 100 and 70 % of heifers were in estrus. There was not significant different (P>0.05) between the treatments.

In experimental 2, heifers were allocated into 4 treatments to determine the effect of Buserelin during different periods after mating. Treatment 1, heifers did not receive Buserelin (control group). Treatment 2, heifers received Buserelin on mating day.

Treatment 3, heifers received Buserelin on day 11 after mating. Treatment 4, heifers received Buserelin on the mating day and day 11 after mating. The results showed that the pregnancy rate detected at 60 days were 50.0, 60.0, 70.0 and 60.0 %, respectively. There was no significant different ($P>0.05$) in pregnancy rate between treatments. However, the serum progesterone levels in heifers that received Buserelin (Treatment 2, 3 and 4) increased highly significant ($P<0.01$) as compared to those in control group. Twice administrations of Buserelin (treatment 4) had serum progesterone significantly higher ($P<0.05$) than treatments 2 and 3. The increased of serum progesterone levels on day 15 after mating in treatment 1, 2, 3 and 4 were 10.39 ± 2.13 , 11.6 ± 1.58 , 13.52 ± 3.28 and 20.47 ± 1.50 ng/ml, respectively.

This study concluded that 10 μ g Buserelin neither improved the expression of estrus nor increased pregnancy rate. However, using Buserelin at and after mating times increased the serum progesterone levels which may help maintaining pregnancy. The positive trend of progesterone levels by Buserelin administration should be further investigated for its role.