

- tence of oocytes. *Theriogenology* 2000;53(1): 11-20.
6. Dieleman SJ, Hendriksen PJ, Viuff D, Thomsen PD, Hyttel P, Knijn HM, Wrenzycki C, Kruip TA, Niemann H, Gadella BM, Bevers MM, Vos PL. Effects of *in vivo* prematuration and *in vivo* final maturation on developmental capacity and quality of pre-implantation embryos. *Theriogenology* 2002;57(1):5-20.
  7. Gandolfi TA, Gandolfi F. The maternal legacy to the embryo: cytoplasmic components and their effects on early development. *Theriogenology* 2001;55(6):1255-76.
  8. Zimmermann RC, Westhof G, Thatcher S, Peukert-Adam I, Grunert E, Braendle W. Follicular size and steroid secretion of dominant bovine follicles. *Zentralbl Gynakol* 1990;112(120):1279 abstr.
  9. Kaneko T, Saito H, Takahashi T, Ohta N, Saito T, Hiro M. Effects of controlled ovarian hyperstimulation on oocyte quality in terms of the incidence of apoptotic granulosa cells. *J Anim Reprod Gene* 2000;17(10):580-85.

## EFFECT OF HCG FOLLICLE STIMULATION ON NUMBER AND DEVELOPMENTAL COMPETENCE OF BOVINE OOCYTES

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**Abstract** Four groups of Holstein Fresian cows each group 3 cows were retrieved oocytes by non-ultrasound guided transvaginal ovum pick-up and *in vitro* embryo production. The first group was treated with FSH (Folltropin-V 200 mg) twice daily for 3 days and resting period for 48 hours prior aspiration. The second group was treated with FSH and hCG 2000 I.U per cow and resting period for 18 hours prior aspiration. The third and fourth groups were rested period for 24 and 32 hours prior aspiration. The result showed that the fourth group was significantly higher number of oocytes and maturation rate than the other groups were  $6.8 \pm 1.1$  oocytes per cow per session and 89.0% respectively ( $P < 0.05$ ). However, there was no statistically significant difference between four groups in percentage of cleavage embryos after cultured 72 hours but it tended to be higher in the fourth group (53.2%). In conclusion, the combination of FSH with hCG and resting period for 32 hours increased the number of retrieved oocytes per cow per session and trended to be increased the *in vitro* embryo production. **Chiang Mai Veterinary Journal** 2006;4(1):51-56.

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