

EFFECT OF OVULATORY FOLLICLE SIZE ON BOVINE PREGNANCY  
ASSOCIATED GLYCOPROTEINS IN BEEF CATTLE

Cia L. Johnson

Dr. Michael F. Smith, Thesis Supervisor

ABSTRACT

The GnRH-induced ovulation of small dominant follicles was associated with reduced pregnancy rates and late embryonic/fetal survival around the time of embryo-uterine attachment. PAGs are secreted by binucleated trophoblast cells into the maternal circulation and have been used to monitor placental function and embryo/fetal mortality. The overall objective was to examine the relationship between ovulatory follicle size and circulating concentrations of bPAG. Postpartum cows were treated with the CO-Synch protocol and timed artificial insemination and classified into one of four groups based on the size of the follicle induced to ovulate at GnRH-2. There was an effect of treatment on pregnancy rates at d 30 post insemination with pregnancy rate being higher following GnRH-induced ovulation of 14 to 15 mm compared to 12 to 13 mm follicles. The first increase in bPAG occurred on d 24. There was an effect of day on bPAG but no effect of ovulatory follicle size or ovulatory follicle size by day interaction from d 20 to 60. Furthermore, there was an effect of month on bPAG but no effect of treatment or treatment by month interaction from 3 months of gestation to calving. In summary, there was no effect of ovulatory follicle size on serum concentrations of bPAG in pregnant cows.