

Pregnancy Rates after CIDR-Based Timed A.I. using GnRH or Estradiol Cypionate in Dairy Heifers

Divakar J. Ambrose¹, John P. Kastelic², Raja Rajamahendran³

¹Dairy Research and Technology Centre, Alberta Agriculture Food and Rural Development, Edmonton, ²AAFC- Lethbridge Research Centre, ³University of British Columbia. E-mail: divakar.ambrose@gov.ab.ca, kastelic@em.agr.ca, raja@unixg.ubc.ca

Take Home Message: ∪ Pregnancy rates to Ovsynch and timed A.I. in dairy heifers may be improved by incorporating a CIDR in the protocol. ∪ A small dose of ECP was as effective as GnRH in the Ovsynch protocol.

Pregnancy rates to Ovsynch regimen and timed A.I. in replacement dairy heifers are often lower (40% or less) than pregnancy rates after A.I. at detected estrus. The intravaginal progesterone-releasing device, CIDR, now available in Canada, allows better control of estrus synchronization and prevents the premature onset of estrus during timed A.I. protocols. The objective was to compare pregnancy rates in replacement dairy heifers following CIDR-based timed A.I. protocols using either GnRH or estradiol cypionate (ECP) to induce follicle growth and ovulation. A CIDR device was placed intravaginally (Day 0) in all heifers at an undetermined stage of the estrous cycle. Heifers (n=45) in the GnRH treatment group received GnRH (Fertiline, 2 mL, Vetoquinol Inc) on Day 0 and PGF (Lutalyse, 5 mL, Pharmacia-Upjohn) on Day 7. The CIDR device was removed on Day 8, 24 h after PGF treatment. A second injection of Fertiline was given on Day 9, followed by insemination 16 h later (Day 10). Heifers (n=41) assigned to the ECP group received estradiol cypionate (ECP, 0.5 mL, Pharmacia-Upjohn) on Day 0 at the time of CIDR insertion and PGF on Day 7. The CIDR was removed on Day 8, a second injection of ECP was given at the time of CIDR removal and heifers were inseminated approximately 40 h later (Day 10). ∪ The pregnancy rates were 57.8% and 58.5% in GnRH and ECP treatment groups, respectively. ∪ Acceptable pregnancy rates were achieved in dairy heifers when ECP or GnRH was used in a CIDR-based timed insemination program without estrus detection. ∪ Pregnancy rates achieved in the present study (58%) are higher than those previously reported in heifers (approximately 40%) with fixed-time AI following an Ovsynch regimen. *Research supported by Alberta Milk Producers, Alberta Agricultural Research Institute, Pharmacia-Upjohn Animal Health, Vetoquinol, Inc., and Vetrepharm Canada.*