

FACTORES QUE DETERMINAN LA FERTILIDAD EN EL HATO LECHERO

Joel Hernández Cerón y Martha Ramírez López

Referencias

Aréchiga FCF, Vázquez-Flores S, Ortiz O, Hernández-Cerón J, Porras A, McDowell LR, Hansen PJ. 1998. Effect of injection of B-carotene or vitamin E and selenium on fertility of lactating dairy cows. *Theriogenology*, 50:65-76.

Butler WR. 1998. Effect of protein nutrition on ovarian and uterine physiology in dairy cattle. *J Dairy Sci.*, 81: 2533–2539.

Butler WR. 2000. Nutritional interactions with reproductive performance in dairy cattle. *Anim Reprod Sci.*, 60-61:449-457.

Chebel RC, Santos JEP, Reynolds JP, Cerri RLA, Juchem SO, Overton M. 2004. Factors affecting conception rate after artificial insemination and pregnancy loss in lactating dairy cows. *Anim. Reprod. Sci.*, 84: 239-255.

Gröhn YT, Rajala-Schultz PJ. 2000. Epidemiology of reproductive performance in dairy cows. *Anim Reprod Sci.*, 60-61:605-614.

Hansen PJ, Drost M, Rivera RM, Paula-Lopes FF, Al-Katanani YM, Krininger III CE, Chase CC Jr. 2001. Adverse impact of the heat stress on embryo production: causes and strategies for mitigation. *Theriogenology*. 55: 91-103.

Hernández Cerón J y Zavala Rayas J. 2007 Editores. Reproducción bovina. División Sistema de Universidad Abierta y Educación a Distancia. Universidad Nacional Autónoma de México. 1^{ra} ed. México, D.F.

Leroy JL, Opsomer G, Van Soom A, Goovaerts IG, Bols PE. 2008. Reduced fertility in high-yielding dairy cows: are the oocyte and embryo in danger? Part I. The importance of negative energy balance and altered corpus luteum function to the reduction of oocyte and embryo quality in high-yielding dairy cows. *Reprod Domest Anim*. 43:612-622.

Lozano DR. 2004. Efecto del estrés calórico sobre el desarrollo folicular, fertilidad, el desarrollo y calidad del embrión y la función lútea en vacas Holstein. Tesis de Doctorado. FMVZ-UNAM. México, D.F.

Lucy MC. 2001. Reproductive loss in high-producing dairy cattle: Where will it end? *J Dairy Sci*. 84:1277-1293.

Lucy MC. 2007. Fertility in high-producing dairy cows: reasons for decline and corrective strategies for sustainable improvement. *Soc Reprod Fertil Suppl*. 64:237-54.

Mann GE, Lamming GE, 2001. Relationship between maternal endocrine environment, early embryo development and inhibition of the luteolytic mechanism in cows.

Reproduction. 121:175-180.

Mann GE, Lamming GE, Fray MD, 2006. Effects of time of progesterone supplementation on embryo development and interferon- γ production in cow. *The Veterinary Journal*. 171:500-503.

Morales-Roura JS, Zarco L, Hernández-Cerón J, Rodríguez G. Effect of short-term treatment with bovine somatotropin at estrus on conception rate and luteal function of repeat-breeding dairy cows. *Theriogenology*. 2001;55:1831-1841.

Moreira F, Badinga L, Burnley C, Thatcher WW. 2002. Bovine somatotropin increases embryonic development in superovulated cows and improves post-transfer pregnancy rates when given to lactating recipient cows. *Theriogenology*. 57(4):1371-87.

Ortiz O. 1997. Análisis de sobrevivencia y serología prospectiva en el estudio de abortos. *Memorias del Séptimo Curso Internacional de Reproducción Bovina*. México D.F.

Roth Z, Meweidan R, Shaham-Albalancy A, Braw-Tal R, Wolfenson D. 2001. Delayed effect of heat stress on steroid production in medium-size and preovulatory bovine follicles. *Reproduction*. 121: 745-51.

Ruiz LA, Aréchiga FCF, Morales RS, Ortiz O, Gutiérrez CG, Hernández-Cerón J. 2009. Incidencia de patologías uterinas y fertilidad de vacas Holstein tratadas con selenio y vitamina E antes y después del parto. *Revista Veterinaria México*. 40(2):133-140.

Santos JEP, Cerri RLA, Ballou MA, Higginbotham GE, Kirk JH. 2004. Effect of timing of first clinical mastitis occurrence on lactational and reproductive performance of Holstein dairy cows. *Anim. Repro. Sci*. 80: 31.

Santos JEP, Thatcher WW, Pool L, Overton MW. 2001. Effect of human chorionic gonadotropin on luteal function and reproductive performance of high-producing lactating Holstein dairy cows. *J Anim Sci*. 79:2881–2894.

Santos JEP, Villaseñor M, Robinson PH, DePeters EJ, Holmberg CA. 2003. Type of cottonseed and level of gossypol in diets of lactating dairy cows: Plasma gossypol, health, and reproductive performance. *J. Dairy. Sci*. 86:892-905.

Schrick FN, Hockett ME, Saxton AM, Lewis MJ, Dowlen HH, Oliver SP. 2001. Influence of Subclinical Mastitis During Early Lactation on Reproductive Parameters. *J. Dairy Sci*. 84: 1407.

Soto P, Natzke RP, Hansen PJ. 2003. Actions of tumor necrosis factor- β on oocyte maturation and embryonic development in cattle. *Am. J. Reprod. Immunol*. 50: 380.

Thatcher WW, Bilby TR, Bartolome JA, Silvestre F, Staples CR, Santos JEP. 2006. Strategies for improving fertility in the modern dairy cow. *Theriogenology*. 65:30-44.

Tixi C, Villa Godoy A, Montaldo H, Posadas E, García C, Hernández Cerón J. 2009. Factores que afectan el porcentaje de vacas gestantes en el día 90 posparto en vacas Holstein en estabulación. XXXIII Congreso Nacional de Buiatria. Chiapas, México.

Trimberger GW. 1948. Breeding efficiency in dairy cattle from artificial insemination at various intervals before and after ovulation. Nebraska Agric. Exp. Stn. Bull. 153:3.

Urzúa E, Gutierrez CG, Garza A, Corona C, Mapes G, Hernandez CJ. 2009. Pregnancy success and luteal function of lactating Holstein cows after hCG on day 5 after insemination. J Dairy Sci. 92 suppl 1:443.

Villa-Godoy A, Hughes TL, Emery RS, Chapin LT, Fogwell RL. 1988. Association between energy balance and luteal function in lactating dairy cows. J Dairy Sci. 71:1063-1072.

Waller KP, Colditz IG, Östensson K. 2003. Cytokines in mammary lymph and milk during endotoxin-induced bovine mastitis. Res. Vet. Sci. 74:31-38.