REFERENCES

Abecia, J. A., Rhind, S. M., Goddard, P. J., McMillen, S. R., Ahmadi, S., & Eslton, D. A. (1996). Jugular and ovarian venous profiles of progesterone and associated endometrial progesterone concentrations in pregnant and non-pregnant ewes. *Animal Science*, 63, 229-234.

Abecia, J.A., Lozano, J.M., Forcada, F., & Zarazaga, L. (1997). Effect of level of dietary energy and protein on embryo survival and progesterone production on day eight of pregnancy in Rasa Aragonesa ewes. *Animal Reproduction Science*, 48, 209-218.

Abecia, J., Sosa, C., Forcada, F., & Meikle, A. (2006). The effect of undernutrition on the establishment of pregnancy in the ewe. *Reproduction Nutrition Development*, 46, 367-378.

Adams, G. P., Matteri, R.L., & Ginther, O.J. (1992). Effect of progesterone on ovarian follicles, emergence of follicular waves and circulating follicle-stimulating hormone in heifers. *Journal of Reproduction and Fertility*, 95, 627-640.

Adams, G. P., Kot, K., Smith C.A., & Ginther, O. J. (1993a). Selection of a dominant follicle and suppression of follicular growth in heifers. *Animal Reproduction Science*, 30, 259-271.

Adams, G. P., Kot, K., Smith, C.A., & Ginther, O.J. (1993b). Effect of the dominant follicle on regression of subordinates in heifers. *Canadian Journal of Animal Science*, 73, 267-275.

Adams, G. P. 1999. Comparative patterns of follicle development and selection in ruminants. *Journal of Reproductive Fertility*, Supplement, 54, 17-32.

Adashi, E. Y., Resnick, C.E., D'ercole, A.J., Svoboda M.E., & Van Wyk J.J. (1985). Insulin-like growth factors as intraovarian regulators of granulose cell growth and function. *Endocrine Reviews*, 6, 400-420.

Agrawal, K.P., Mongha, I.V., & Bhattacharyya, N.K. (1982). Collection and transfer of embryos in goats surgical methods. *Indian Veterinary Journal*, 39, 298-303.

Alessandro, A. D., Martemucci, G., Colonna, M.A., Cafueri, C., & Todela F. (1997). Some effects of adding p-LH in defined amounts to purified p-FSH to modify FSH / LH ratios during the superovulatory treatment of anoestrous ewes. *Animal Reproduction Science*, 47, 91-98.

Al-Kamali, A. A., Boland, M.P., Crosby, T.F., & Gordon I. (1985). Reduced superovulatory response in the ewe following repeated gonadotrophin treatment. *Veterinary Record*, 116, 180-181.

Ammoun, I., Encinas, T., Veiga-Lopez, A., Ros, J.M., Contreras, I., Gonzalez- Anover, P., Cocero, M.J., McNeilly, A.S., & Gonzalez-Bulnes, A. (2006). Effects of breed on kinetics of ovine FSH and ovarian response in superovulated sheep. *Theriogenology*, 66, 896-905.

Amoah, E. A., & Gelaye, S. (1990). Superovulation, synchronization and breeding of does. *Small Ruminant Research*, 3, 63-72.

Angela, S., Prefac, G., Paul, T., Alexandru, S., & Dana, T. (2006). Evaluation of Sheep Embryo Quality by Morphologic Methods – Advantages and Disadvantages. *Journal of Tekirdag Agricultural Faculty*, 3(1), 60-70.

Armstrong, D. T., Pfitzner, A.P., Porter, K.J., Warnes, G.M., Janson, P.O., & Seamark, R.F. (1982). Ovarian responses of anoestrous goats to stimulation with pregnant mare serum gonadotrophin. *Animal Reproduction Science*, 5, 15-23.

Armstrong, D.T., & Evans, G. (1983a). Factors affecting success of embryo transfer in sheep and goats. *Theriogenology*, 19, 31-42.

Armstrong, D. T., Pfitzner, A.P., Warnes, G.M., Ralph, M.M., & Seamark R. F. (1983b). Endocrine responses of goats after induction of superovulation with PMSG and FSH. *Journal of Reproduction and Fertility*, 67, 395-401.

Armstrong, D. T., Pfitzner, A. P., Warnes, G. M., & Seamark, R. F. (1983c). Superovulation treatments and embryo transfer in Angora goats. *Journal of Reproduction and Fertility*, 67, 403-410.

Armstrong, D. T. (2001). Effects of marternal age on oocyte developmental competence. *Theriogenology*, 55, 1303-1322.

Badinga, L., Driancourt, M. A., Savio, J. D., Wolfenson, D., Drost, M., de la Sota, R. L., & Thatcher W. W. (1992). Endocrine and ovarian responses associates with the first-wave dominant follicle in cattle. *Biology of Reproduction*, 47, 871-883.

Baird, D. T. (1983). Factors regulating the growth of the preovulatory follicle in sheep and human. *Journal of Reproduction and Fertility*, 69, 343-352.

Baldassare, H., de Matos, D. G., Furnus, C. C., Castro T. E., & Cabrera Fischer E. I. 1994. Technique for efficient recovery of sheep oocytes by laparoscopic folliculocentesis. *Animal Reproduction Science*, 35, 145-150.

Baldasssare, H., Wang, B., Kafidi, N., Keefer, C., Lazaris A., & Karatzas, C. N. (2002). Advances in the production and propagation of transgenic goats using laparoscopic ovum pick-up and in vitro embryo production technologies. *Theriogenology*, 57, 275-284.

Baldassare, H., Wang, B., Kafidi, N., Gauthier, M., Neveu, N., Lapointe, J., Sneek, L., Leduc, M., Duguay, F., Zhou, J. F., Lazaris, A., & Karatzas, C. N. (2003). Production of transgenic goats by pronuclear microinjection of in vitro produced zygotes derived from oocytes recovered by laparoscopy. *Theriogenology*, 59, 831-839.

Baldassarre, H., & Karatzas C. N. (2004). Advance assisted reproductive technologies (ART) in goats. *Animal Reproduction Science*, 82-83, 255-266.

Bari, F.Y., Khalid, M., Haresign, W., Merrell, B., Murray, A., & Richards, R. I. W. (1999). An evaluation of the success of MOET in two breeds of hill sheep maintained under normal systems of hill flock management. *Animal Science*, 69, 367- 376.

Bari, F., Khalid, M., Haresign, W., Murray, A., & Merrell, B. (2000). Effect of mating system, flushing procedure, progesterone dose and donor ewe age on the yield and quality of embryos within a Moet program in sheep. *Theriogenology*, 53, 727-742.

Bari, F., Khalid, M., Haresign W., & Murrayand Merrell, B. (2003). Factors affecting the survival of sheep embryos after transfer within a MOET program. *Theriogenology*, 59, 1265-1275.

Baril, B., Casamitjana, P., Perrin, J., & Vallet, J.C. (1989). Embryo production, freezing and transfer in Angora, Alpine and Saanen goats. Zuchthyg, 24, 101-115.

Baril, G., & Vallet, J.C. (1990). Time of ovulations in dairy goats induced to superovulate with porcine follicle stimulating hormone during and out of the breeding season. *Theriogenology*, 34, 2, 303-311

Baril, G., Leboeuf, B., & Saumande, J. (1993). Synchronization of estrus in goats: the relationship between time of occurrence of estrus and fertility following artificial insemination. *Theriogenology*, 40, 621-628.

Baril, G., Pugmark, J. L., Ferias, V. J. F., Lebo, B., & Summand, J. (1996). A new method for controlling the precise time of occurance of the preovulatory gonadotropin surge in superovulated goats. *Theriogenology*, 45, 697-706.

Baril, G., Touze, J. L., Pignon, R., & Saumande, J. (2000). Evaluation of the efficiency of transrectal ultrasound to study ovarian function in goats. *Theriogenology*, 53, 370 (Abstract).

Baril, G., Traldi, A-L., Cognie, Y., Leboeuf, B., Beckers, J. F., & Mermillod, P. (2001). Successful direct transfer of vitrified sheep embryos. *Theriogenology*, 56, 299-305.

Bartlewski, P. M., BeardCook, A. P., Chandolia, S. J., Hanaramooz, A., & Rawlings, N. C. (1999). Ovarian antral follicular dynamics and their relationships with endocrine variables throughout the oestrous cycle in breeds of sheep differing in prolificacy. *Journal of Reproduction and Fertility*, 115, 111-124.

Batt, P. A., Killeen, I. D., & Cameron, A. W. (1993). Use of single or multiple injections of FSH in embryo collection programmes in goats. *Reproduction, Fertility and Development*, 5, 49-56.

Battye, K. M., Fairclough, R. J., Cameron, A. W. N., & Trounson, A. O. (1988). Evidence for prostaglandin involvement in early luteal regression of the superovulated nanny goat (Capra hircus). *Journal of Reproduction and Fertility*, 84, 425-430.

Bauernfeind, M., & W. Holtz. (1991). Progesterone and estrogen levels in serum of cycling goats measured by enzyme immunoassay. *Small Ruminant Research*, 6, 95-102.

Bavister, B. D., Dees, C., & Schultz, R. D. (1986). Refractoriness of rhesus monkeys to repeated ovarian stimulation by exogenous gonadotropins is caused by nonprecipitating antibodies. *American Journal of Reproduction, Imunology and Microbiology*, 11, 11-16.

Beckers, J. F., Baril, G., Vallet, J. C., Chupin, D., Remy, B., & Saumande, J. (1990). Are porcine follicle stimulating hormone antibodies associated with decreased superovulatory response in goat. *Theriogenology*, 33, 192(Abstract).

Besenfelder, U., Zinovieva, N., Dietrich, E., Sohnrey, B., Holtz, W., & G. Brem. (1994). Tubal transfer of goat embryos using endoscopy. *Veterinary Record,* 135, 480-481.

Bessoudo, E., Davis, L., Coonrod, S., & Kraemer, D. C. (1988). Commercial embryo transfer in Australian Angora. *Theriogenology*, 29, 222(Abstract).

Bergfelt, D. R., Plata-Madrid, H., & Ginther, O.J. (1994). Counteraction of the follicular inhibitory effect of follicular fluid by administration of FSH in heifers. *Canadian Journal of Animal Science*, 74, 633-639.

Berlinguer, F., Leoni, G., Bogliolo, L., Pintus, P.P., Rosati, I., Ledda, S., & Naitana, S. (2004). FSH different regimes affect the developmental capacity and cryotolerance of embryos derived from oocytes collected by ovum pick-up in donor sheep. *Theriogenology*, 61, 1477-1486.

Betteridge, K.J., & Loskutoff, N.M. (1993). Prospects for improving the survival rate of transferred embryos. *Molecular Reproductive Development*, 36, 262-265.

Bevers, M.M., Russcher, J.A., & Dieleman, S.J. (1989). Absence of high-affinity binding sites for prolactin on the bovine corpus luteum. *Animal Reproduction Science*, 18, 87-93.

Bhatia, B., Wang, B., Baldassarre, H., & Keefer, C.L. (2002). In vitro fertilization of goat oocytes using fresh and frozen-thawed spermatozoa. *Theriogenology*, 57, 568A

Bindon, B.M., Piper, L.R., Cahill, L. P., Driancourt, M.A., & O'Shea, T. (1986). Genetic and hormonal factors affecting superovulation. *Theriogenology*, 25, 53-70.

Binelli, M., Hampton, J., Buhi, W. C., & Thatcher, W. W. (1999). Persistent dominant follicle alters pattern of oviductal secretory proteins from cows at estrus. *Biology of Reproduction*, 61, 127-134.

Blanchard, T., Ferguson, J., Love, L., Takeda, T., Henderson, B., Hasler, J., & Chalupa, W. (1990). Effect of dietary crude-protein type on fertilization and embryo quality in dairy cattle. *American Journal of Veterinary Research*, 51, 905-908.

Bo, G. A., Adams, G. P., Pierson, R. A., & Mapletoft, R. J. (1995). Exogenous control of follicular wave emergence in cattle. *Theriogenology*, 43, 31-40.

Boland, M. P., Crosby, T. F., & Gordon, I. (1983). Ovarian response in ewes following horse anterior pituitary extract and progestagen treatment. *Animal Reproduction Science*, 6, 119-127.

Boland, M. P., Lonergan, P., & O'Callaghan, D. (2001). Effect of nutrition on endocrine parameters, ovarian physiology, and oocyte and embryo development. *Theriogenology*, 55, 1323-1340.

BonDurant, R. H., Skirrow, S., Anderson, G. B., Hanson, F., & Rogers, W. H. (1984). Nonsurgical collection of blastocysts from dairy goats. *Theriogenology*, 22, 423-431.

Bączkowski. T., Kurzawa, R., & Głąbowski, W. (2004). Methods of embryo scoring in *in vitro* fertilization. *Reproductive Biology*, 4, 5-22.

Borowczyk, E., Caton, J.S., Redmer, D.A., Bilski, J.J., Weigl, R.M., Vonnahme, K.A., Borowicz, P.P., Kirsch, J.D., Kraft, K.C., Reynolds, L.P., & Grazul-Bilska, A.T. (2006). Effects of plane of nutrition on in vitro fertilization and early embryonic development in sheep. *Journal of Animal Science*, 84, 1593-1599.

Brebion, P., & Cognie, Y. (1989). Increased superovulation in the ewe following 14 days of GnRH agonist pretreatment. *In Proceedings of the 5th Meeting European Association of Embryo Transfer*. Lyon, France.

Brebion, P., Baril, G., Cognie, Y., & Vallet, J. C. (1992). Embryo transfer in sheep and goats. *Annales de Zootechnie*, 41, 331-339.

Breuel, K. F., Baker, R. D., Buther, R. L., Townsend, E. C., Inskeep, E. K., Dailey, R. A., & Lerner, S. P. (1991). The effects of breed, age of the donor and dosage of follicle stimulating hormone on the superovulatory response of beef-cows. *Theriogenology*, 36, 241-255.

Breuel, K. F., Lewis, P. E., Schrick, F. N., Lishman, A. W., Inskeep, E. K., & Butcher, R. L. (1993). Factors affecting fertility in the postpartum cow: Role of the oocyte and follicle in conception rate. *Biology of Reproduction*, 48, 655-661.

Bretzlaff, K.N., & Madrid, N. (1985). Synchronization of oestrus and fertility in goats with norgestomet ear implants. *Theriogenology*, 16, 587–591.

Buckrell, B. C., Gartley, C. J., Mehren, K. G., Crawshaw, G. J., Johnson, W. H., Barker, I. K., Balke, J., Coghill, C., Challis, J. R. G., & Goodrowe, K. L. (1990). Failure to maintain interspecific pregnancy after transfer of Dall's sheep embryos to domestic ewes. *Journals of Reproduction and Fertility*, 90, 387-394.

Buford, W. I., Ahmad, N., Schrick, F.N. Butcher, R.L., Lewis, P.E., & Inskeep E.K. (1996). Embryotoxicity of a regressing corpus luteum in beef cows supplemented with progestagen. *Biology of Reproduction*, 54, 531-537.

Bungarts, L., & Niemman, H. (1994). Assessment of the presence of a dominant follicle and selection of dairy cows suitable for superovulation by a single ultrasound examination. *Journal of Reproduction and Fertility*, 101, 583-591.

Burgess, K. M., Ralph, M. M., Jenkin, G., & Thorburn, G. D. (1990). Effect of oxytocin and estradiol on uterine prostaglandin release in nonpregnant and early-pregnant ewes. *Biology of Reproduction*, 42, 822-833.

Butcher, R. L., Reber, J. E., Lishman, A. W., Breuel, K. F., Schrick, F. N., Spitzer, J.C., & Inskeep, E. K. (1992). Maintenance of pregnancy in postpartum beef cows that have short-lived corpora lutea. *Journal of Animal Science*, 70, 3831-3837.

Butler, W. R. (2000). Nutritional interactions with reproductive performance in dairy cattle. *Animal Reproduction Science*, 61, 449-457.

Buzzell, N. S., Blash, M., Cutler, D., Melican, J., Jameson, P., Flanagan, Olson, M., & Gavin, W. (2003). Effects of short-term nutritional priming and multiple superovulation regimes on superovulated dairy goats. *Journal of Animal Science*, 81, 126(Abstract).

Callesen, H., Greve T., & Hyttel P. (1986). Preovulatory endocrinology and oocyte maturation in superovulated cattle. *Theriogenology*, 25, 71-86.

Callesen, H., Greve, T., & Hyttel, P. (1987). Premature ovulations in superovulated cattle. *Theriogenology*, 28, 155-166.

Callesen, H., Greve, T., & Hyttel, P. (1988). Preovulatory evaluation of the superovulatory response in donor cattle. *Theriogenology*, 30, 477-488.

Callesen, H., Lovendahl, P., Bak, A., & Greve, T. (1995). Factors effecting the developmental stage of embryos recovered on day 7 from superovulated dairy cattle. *Journal of Animal Science*, 73, 1539-1543.

Cameron, A. W. N., Battye, K. M., & Trounson, A. O. (1988). Time of ovulation in goats (*Capra hircus*) induced to superovulate with PMSG. *Journal of Reproduction and Fertility*, 83, 747-752.

Campbell, B. K., Scaramuzzi, R. J., & Webb, R. (1995). Control of follicle development and selection in sheep and cattle. *Journal of Reproduction and Fertility*, Supplement, 49, 335-350.

Campbell, B. K., Dobson, H., & Scaramuzzi R. J. (1998). Ovarian function in ewes made hypogonadal with GnRH antagonist and stimulated with FSH in the presence or absence of low amplitude LH pulses. *Journal of Endocrinology*, 156, 213-222.

Carlson, K. M., Pohl, H. A., Marcek, J. M., Muser, R. K. & Wheaton, J. E. (1989). Evaluation of progesterone controlled internal drug release dispensers for synchronization of estrus in sheep. *Animal Reproduction Science*, 18,205-218.

Cervantes, M.J., Ju´arez, M.L., Mej´ıa, V.O., Berruecos, V.J.M., Vera, A.H., & Valencia, J. (2007) . Use of fluorogestone acetate after breeding to reduce the effect of premature luteal regression in dairy goats when superovulation is induced with FSH. *Animal Reproduction Science*, 97, 47-54

Chagas e Silva, J., Lopes da Costa, L., & Robalo Silva J. (2002). Plasma progesterone profiles and factors affecting embryo-fetal mortality following embryo transfer in dairy cattle. *Theriogenology*, 58, 51-59.

Chagas e Silva, J., Lopez da Costa, L., Cidadão, R., & Robalo Silva, J. (2003). Plasma progesterone profiles, ovulation rate, donor embryo yield and recipient embryo survival in native Saloia sheep in the fall and spring breeding seasons. *Theriogenology*, 60, 521-532.

Chagas e Silva J., & Lopes de Costa, L. (2005). Luteotrophic influence of early bovine embryos and the relationship between plasma progesterone concentrations and embryo survival. *Theriogenology*, 64, 49-60.

Chan, W.K., 2008. Developmental Competence of in vitro Fertilized embryos following hyperstimulation procedure and vitrification of in vitro procedure caprine embryos (Master's Thesis). University of Malaya. Kuala Lumpur, Malaysia.

Chemineau, P., Ba, G., Leboeuf, B. Maurel, M. C., Roy, F., Pellicer-Rubio, M., Malpaux, B., & Cognie, Y. (1999). Implications of recent advances in reproductive physiology for reproductive management of goats. *Journal of Reproduction and Fertility*, 54, 129-142.

Chupin, D., & Saumande, J. (1979). New attempts to decrease the variability of ovarian response to PMSG in cattle. *Annales de Biologie Animale Biochimie Biophysique,* 19, 1489-1498.

Clark, D.A., Croy, B.A., Rossant, J., & Chaouat, G. (1986). Immune presensitization and local intrauterine defences as determinants of success or failure in murine interspecies pregnancies. *Journal of Reproduction and Fertility*, 11, 633-643.

Cognie, Y., Guerin, Y., Guyader, C., Poulin, N., & Crozet, N. (1991). In vitro fertilization in sheep oocytes matured in vivo. *Theriogenology*, 35, 393-400.

Cognie, Y., Benoit, F., Khatir, H., & Driancourt, M. A. (1998). Effects of follicle size and of the FecB Booroola gene on oocyte function in sheep. *Journal of Reproduction and Fertility*, 112, 379-386.

Cognie, Y. (1999). State of art in sheep-goat embryo transfer. *Theriogenology*, 51, 105-116.

Cognie, Y., Baril, G., Poulin, N., & Mermillod, P. (2003). Current status of embryo technologies in sheep and goat. *Theriogenology*, 59, 171-188.

Corderio, M. F., Lima-Verde, J. B., Lopes-Junior, E. S., Teixeira, D. I. A., Farias, L. N., Salles, H. O., Simplicio, A. A., Rondina, D., & Freitas, V. J. F. (2003). Embryo recovery rate in Santa Ines ewes subjected to successive superovulatory treatments with pFSH. *Small Ruminant Research*, 49, 19-23.

Corteel, J. M., Leboeuf, B., & Baril, G. (1988). Artificial breeding of adult goats and kids induced with hormones to ovulate outside the breeding season. *Small Ruminant Research*, 1, 19-35.

Corteel, J.M., & Leboeuf B. (1990). Evolution technico-economique de l'insemination artificielle caprine. *Elev. Insem,* 237, 3–17.

Costine, B. A., Sayre, B. L., & Inskeep, E. K.. (2001). Embryotoxicity of regressing corpora lutea in ewes. *Reproduction*, 122, 883-887.

Cox, N. M. (1997). Control of follicular development and ovulation rate in pigs. *Journal of Reproduction and Fertility*, Suppliment, 52: 31-46.

Cox, S. F., McMillan, W. H., & Donnison, M. J. (1998). Establishment of a herd of cattle divergent potential pregnancy rate. *Theriogenology*, 49, 242 (Abstract).

Creed, J., McEvoy, T. G., Robinson, J. J., Aitken, R. P., Palmer, R. M., & Robertson, I. (1994). The effect of preovulatory nutrition on the subsequent development of superovulated sheep ova in an in vitro culture system. *Animal Production*, 58, 82 (Abstract).

Crozet, N., Ahmed-Alli, M., & Dubos, M. P. (1995). Developmental competence of goat oocytes from follicles of different size categories following maturation, fertilization and culture in vitro. *Journal of Reproduction and Fertility*, 103, 293-298.

Crozet, N., Dahireland M., & Gall, L. (2000). Meiotic competence of in vitro grown goat oocytes. *Journal of Reproduction and Fertility*, 118, 367-373.

Cruz, J., F., Rondina, D., & Freitas, V. J. F. (2005). Ovarian follicular dynamics during anoestrus in Anglo-Nubian and Saanen goats raised in tropical climate. *Tropical Animal Health Production*, 37, 395-402.

D'Alessandro, A., Martemucci, G., Toteda, F., Gambacorta, M. & Manchisi, A. (1996). Superovulation and embryo production in ewes using a commercial p-FSH. *Small Ruminant Research*, 19, 255-261

D'Alessandro, A. G., Martemucci, G., & Taibi, L. (2005). How the FSH/LH ratio and dose numbers in the p-FSH administration treatment regimen, and insemination schedule affect superovulatory response in ewes. *Theriogenology*, 63, 1764-1774.

Dattena, M., Accardo, C., Pilichi, S., Isachenko, V., Mara, L., Chessa, B., & Cappai, P. (2004). Comparison of different vitrification protocols on viability after transfer of bovine blastocysts in vitro produced and in vivo derived. *Theriogenology*, 62, 481-493.

de Castro, T., Rubianes, E., Menchaca, A., & Rivero, A. (1998). Ultrasonic study of follicular dynamics during the estrous cycle in goats. *Theriogenology*, 49, 399 (Abstract).

de Castro, T., Rubianes. E., Menchaca, A., & Rivero, A. (1999). Ovarian dynamics, serum estradiol and progesterone concentrations during the interovulatory interval in goats. *Theriogenology*, 52, 399-411.

Demoustier, M. M., Beckers, J-Fr., Van Der Zwalmen, P., Closset, J., Gillard J-L,. & Ectors, Fr. (1988). Determination of porcine plasma folltropin levels during superovulation treatment in cows. *Theriogenology*, 30, 379-386.

Dent, J., McGovern, P.T., & Hancock, J.L. (1971). Immunological implications of ultrastructural findings of goat sheep hybrid placentae. *Nature*, 231, 116-117.

De Smedt, V., Crozet, N., & Gall, L. (1994). Morphological and functional changes accompanying the acquisition of meiotic competence in ovarian goat oocyte. *Journal of Experimental Zoology*, 269, 128-139.

Department of Veterinary Services.(1988). *Mutton Industry In Peninsular Malaysia*. Kuala Lumpur: Ministry of Agriculture Malaysia.

Department of Veterinary Services.(2010). *Livestock Statistics 2009/2010*. Putrajaya: Ministry of Agriculture Malaysia and Agro-Base.

Department of Veterinary Services Malaysia. (2011). *Livestock Statistics Handbook 2010/2011*. Putrajaya, Malaysia: Ministry of Agroculture and Agro-Base.

Devendra, C., & McLeroy, G. B.(1982). *Goat and sheep production in the tropics*. UK: Longman Limited.

Devendra, C., & Burns, M. (1983). *Goat production in the tropics*. U. K: C. A. B.

Diedrich, K., Diedrich, C., Santos, E., Zoll, C., al-Hasani, S., & Reissmann, T. (1994). Suppression of the endogenous luteinizing hormone surge by the gonadotrophinreleasing hormone antagonist Cetrorelix during ovarian stimulation. *Human Reproduction*, 9, 788-791.

Diskin, M. G., Austin, E. J., & Roche J. F. (2002). Exogenous hormonal manipulation of ovarian activity in cattle. *Domestic Animal Endocrinology*, 23, 211-228.

D'Occhio, M. J., Sudha, G., Jillella, D., Whyte, T. R., Maclellan, L. J., Walsh, J., Trigg, T. E., & Miller, D. (1998). Close synchrony of ovulation in superstimulated heifers that have a downregulated anterior pituitary gland and are induced to ovulate with exogenous LH. *Theriogenology*, 49, 637-644.

Dobson, H., & Smith, R.F. (2000). What is stress, and how does it affect reproduction?. *Animal Reproduction Science*, 61, 743-752.

Donaldson, L. E., (1984). Cattle breed as source of variation in embryo transfer. *Theriogenology*, 21, 1013-1018.

Donaldson, L. E., Ward, D. N., & Glenn, S. D. (1986). Use of porcine follicle stimulating hormone after chromatographic purification in superovulation of cattle. *Theriogenology*, 25, 747-757.

Donaldson, L. E. (1990). Embryo production by SUPER-OV® and FSH-P®. *Theriogenology*, 33: 214-215.

Downing, J.A., & Scaramuzzi, R. J. (1991). Nutrient effects on ovulation rate, ovarian function and the secretion of gonadotrophic and metabolic hormones in sheep. *Journal of Reproduction and Fertility Suppliment*, 43, 209-227.

Downing, J.A., Joss, J., Connell, P., & Scaramuzzi, R. J. (1995). Ovulation rate and the concentration of gonadotrophic and metabolic hormones in ewes fed lupin grain. *Journal of Reproduction and Fertility*, 103, 137-145.

Driancourt, M. A., Fry, R. C., Campbell, B. K., & McNeilly, A. S. (1990). Granulosa cell content and production of steroids, inhibin and follicular peptides by large follicles from a range of prolific and non-prolific breeds of sheep. *Journal of Reproduction and Fertility*, 43, 230-231.

Driancourt, M. A., Webb, R., & Fry, R. C. (1991). Does follicular dominance occur in ewes. *Journal of Reproduction and Fertility*, 93, 63-70.

Driancourt, M. A., & Avdi, M. (1993). Effect of the physiological stage of the ewe on the number of follicles ovulating following hCG injection. *Animal Reproduction Science*, 32, 227-236.

Driancourt, M. A. (2001). Regulation of ovarian follicular dynamics in farm animals. Implications for manipulation of reproduction. *Theriogenology*, 55, 1211-1239.

Drion, P. V., Roover, R. De, Houtain, J., McNamara, E. M., Remy, B., Sulon, J., & Beckers, J. (2001). Increase of plasma eCG binding rate after administration of repeated high dose of eCG to cows. *Reproduction Nutrition Development*, 41, 207-215.

Dufour, J.J., Cognie, Y., Mermillod, P., Mariana, J-C., & Romain, R. F. (2000). Effects of the Booroola *Fec* gene on ovarian follicular populations in the superovulated Romanov ewes pretreated with GnRH antagonist. *Journal of Reproduction and Fertility*,118, 85-94.

East, N.E., & Rowe, J.D. (1989). Subcutaneous progestin implants versus intravaginal sponges for dairy goat estrus synchronization during the transitional period. *Theriogenology*, 32, 921-928.

Ebert, K.M., Selgrath, J.P., DiTullio, P., Denman, J., Smith, T.E., Memon, M.A., Schindler, J.E., Monastersky, G.M., Vitale ,J.A., & Gordon K. (1991). Transgenic production of a variant of human tissue-type plasminogen activator in goat milk: generation of transgenic goats and analysis of expression. *Biotechnology*, 9, 835-838.

El-Gayar, M., & Holtz, W. (2001). Technical note: Vitrification of goat embryos by the open pulled-straw method. *Journal of Animal Science*, 79, 2436-2438.

El-Gayar, M., & Holtz, W. (2005). Transfer of sexed caprine blastocysts freshly collected or derived from cultured morulae. *Small Ruminant Research*, 57, 151-156.

Espinosa-Marquez, M. C., Valencia, J., Escobar-Medina, F. J., Colina-Flores, F., & Arechiga-Flores, C. F. (2004). Effect of fluorogestone acetate on embryo recovery and quality in eCG- superovulated goats with premature luteal regression. *Theriogenology*, 62, 624-630.

Estrada-Cortés, E., Vera-Avila, H. R., Urrutia-Morales, J., Villagómez-Amezcua, E.,

Jiménez-Severian, H., Mejía-Guadarrama, C. A., Teresa Rivera-Lozanoc, M. T., & Gámez-Vázquez, H. G. (2009). Nutritional status influences reproductive seasonality inCreole goats: 1. Ovarian activity during seasonal reproductive transitions. *Animal Reproduction Science*, 116, 282–290.

Evans, G., & Armstrong, D. T. (1984). Reduction of sperm transport in ewes by superovulation treatments. *Journal of Reproduction and Fertility*, 70, 47-53.

Evans, G., & Maxwell, M.M.C. (1987). *Salamon's Artificial Insemination of Sheep and Goats*. Butterworths, Sydney.

Evans, A.C., Duffy, P., Hynes, N., & Boland, M.P. (2000). Waves of follicle development during the estrous cycle in sheep. *Theriogenology*, 53, 699-715.

Evans, A. C. O. (2003). Characteristics of ovarian follicle development in domestic animals. *Reproduction Domestic Animal*, 38, 240-246.

Flint, A.P.F. , & Sheldrick, E.F. (1983). Evidence for a systemic role for ovarian oxytocin in luteal regression in sheep. *Journal of Reproduction Fertility*, 67, 215-225.

Flores-Foxworth, G., McBride, B. M., Kraemer, D. C., & Nuti, L. C. (1992). A comparison between laparascopic and transcervical embryo collection and transfer in goats. *Theriogenology*. 37: 213 (Abstract).

Fitz-Rodríguez, G., De Santiago-Miramontes, M.A., Scaramuzzi, R.J., Malpaux, B., & Delgadillo, J.A. (2009). Nutritional supplementation improves ovulation and pregnancy rates in female goats managed under natural grazing conditions and exposed to the male effect. *Animal Reproduction Science*, 116, 85-94.

Freitas, V. J. F., Bariland, G., & Saumande, J. (1997). Estrus synchronization in dairy goats: use of fluorogestone acetate vaginal sponges or norgestomet ear implants. *Animal Reproduction Science*, 46, 237-244.

Fry, R.C., Cahill, L.P., Cummins, J.T., Bindon, B.M., Piper, L.R., & Clarke, I.J. (1987). The half-life of follicle-stimulating hormone in ovary intact and ovariectomized Booroola and control Merino ewes. *Journal of Reproduction and Fertility*, 81, 611–615.

Fuki, Y., Kano, H., Kobayashi, M., Tetsura, M., & Ono, H. (1985). Response to repeated superovulation treatment in the ewe. *Japan Journal Animal Reproduction*, 31, 155-157.

Gaafar, K. M., Gabr, M. K., & Teleb, D. F. (2005). The hormonal profile during the estrous cycle and gestation in Damascus goats. *Small Ruminant Research*, 57, 85-93.

Garcia-Bojalil, C. M., Staples, C. R., Thatcher, W. W., & Drost, M. (1994). Protein intake and development of ovarian follicles and embryos of superovulated nonlactating dairy cows. *Journal Dairy Science*, 77, 2537-2548.

Garverick, H.A., Zollers, W.G., & Smith M.F. (1992). Mechanisms associated with corpus luteum lifespan in animals having normal and subnormal luteal function. *Animal Reproduction Science*, 28, 111-124.

Gath, V., Lonergan, P., Boland, M. P., & O'Callaghan, D. (1999). Effects of diet type on establishment of pregnancy and embryo development in beef heifers. *Theriogenology*, 51, 224 (Abstract).

Ginther, O. J., & Kot, K. (1994). Follicular dynamics during the ovulatory season in goats. *Theriogenology*, 42, 987-1001.

Ginther, O. J., Kot, K., & Wiltbank, M. C. (1995). Associations between emergence of follicular waves and fluctuations in FSH concentrations during the estrous cycle in ewes. *Theriogenology*, 43, 689-703.

Godfrey, R. W., Gray, M. L., & Collins, J. R. (1997). A comparison of two methods of oestrous synchronisation of hair sheep in the tropics. *Animal Reproduction Science* . 47, 99-106.

Goel, A.K., & Agrawal K.P. (1990). Superovulation and embryo collection in Jamunapari goats. *Theriogenology*, *33, 232* (Abstract).

Goel, A. K., & Agrawal, K. P. (2005). Ovulatory response and embryo yield in Jakhrana goats following treatments with PMSG and FSH. *Tropical Animal Health and Production*, 37, 549-558.

Gong, J. G. (2002). Influence of metabolic hormones and nutrition on ovarian follicle development in cattle: practical implications. *Domestic Animal,* 23, 229-241.

Gonzalez-Anover, P., Encinas, T., Garcia-Garcia, R.M., Santiago-Moreno, J., Lopez-Sebastian, A., Cocero, M. J., & Gonzalez-Bulnes, A. (2004). Effect of growth hormone and GnRH antagonist on follicular and oocyte development in sheep. *Reproduction, Fertility and Development*, 16, 231 (Abstracts).

Gonzalez-Bulnes, A., Santiago-Moreno. J., Gomez-Brunet, A., Inskeep, E. K., Townsend, E. M., & Lopez-Sebastian, A. (1999). Follicular dynamics during the oestrous cycle in dairy goats. *Animal Science*, 68, 547-554.

Gonzalez-Bulnes, A., Santiago-Moreno, J., Cocero, M.J., & Lopez-Sebastian, A. (2000a). Effects of FSH commercial preparation and folliclular status on follicular growth and superovulatory response in spanish merino ewes. *Theriogenology*, 54, 1055-1064.

Gonzalez-Bulnes, A., Santiago Moreno, J., Gomez Brunet, A., & Lopez-Sebastian, A. (2000b). Relationship between ultrasonographic assessment of the corpus luteum and plasma progesterone concentration during the oestrous cycle in monovular ewes. *Reproduction* in *Domestic Animals*, 35, 65-68.

Gonzalez-Bulnes, A., Garcia-Garcia R. M., Souza, C. J. H., Santiago-Moreno, J., Lopez-Sebastian, A., Cocero, M. J., & Baird, D. T. (2002). Patterns of follicular growth in superovulated sheep and influence on endocrine and ovarian response. *Reproduction in Domestic Animals*, 37, 357-361.

Gonzalez-Bulnes, A., Carrizosa, J. A., Diaz-Delfa, C., Garcia-Garcia, R. M., Urrutia, B., Santiago-Moreno, J., Cocero, M. J., & Lopez-Sebastian, A. (2003a). Effects of ovarian follicular status on superovulatory response of dairy goats to FSH treatment. *Small Ruminant Research*, 48, 9-14.

Gonzalez-Bulnes, A., Garcia-Garcia, R.M., Santiago-Moreno, J., Dominguez, V., Lopez-Sebastian, A., & Cocero, M. J. (2003b). Reproductive season affects inhibitory effects from large follicles on the response to superovulatory FSH treatments in ewes. *Theriogenology*, 60, 281-288.

Gonzalez-Bulnes, A., Garcia-Garcia, R.M., Castellanos, V., Santiago- Moreno, J., Ariznavarreta, C., Dominguez, V., Lopez-Sebastian, A., Treguerres, J. A. F., & Cocero, M. J. (2003c). Influence of maternal environment on the number of transferable embryos obtained in response to superovulatory FSH treatments in ewes. *Reproduction Nutrition Development*, 43, 17-28.

Gonzalez-Bulnes, A., Baird, D. T., Campbell ,B. K., Cocero, M.J., Garcia-Garcia, R. M., Inskeep, E. K., Lopez-Sebastian, A., McNeilly, A. S., Santiago-Moreno, J., C. Souza. J. H., & Veiga-Lopez, A. (2004a). Multiple factors affecting efficiency of multiple ovulation and embryo transfer in sheep and goats. *Reproduction, Fertility and Development*, 16, 421-435.

Gonzalez-Bulnes, A., R. M., Garcia-Garcia, J. A., Carrizosa, B., Urrutia, C. J. H., Souza M. J., Cocero, A., Lopez-Sebastian., & McNeilly, A. S. (2004b). Plasma inhibin A determination at start superovulatory FSH treatments is predictive for embryo outcomes in goats. *Domestic Animal Endocrinology*, 26, 259-266.

Gonzalez-Bulnes, A., Berlinguer, F., Cocero, M. J., Garcia-Garcia, R. M., Leoni, G., & Naitana, S. (2005). Induction of the presence of corpus luteum during superovulatory treatments enhances in vivo and in vitro blastocysts output in sheep. *Theriogenology*, 64, 1392-1403.

Gootwine, E., Barash, I., Bor , A., Dekel , I., Friedler , A., Heller, M., Zaharoni, U., Zenue, A., & Shani, M. (1997). Factors affecting success of embryo collection and transfer in a transgenic goat program. *Theriogenology*, 48, 485-499.

Gordon, I.(1997). Controlled reproduction in sheep and goats. U.K: *CAB International*

Graff, K. J., Meintjes, M., Dyer, V. W., Paul, J. B., Denniston, R. S., Ziomek, C. A., & Godke, R. A.(1999). Transvaginal ultrasound-guided oocyte retrieval following FSH stimulation of domestic goats. *Theriogenology*, 51, 1099-1119.

Graff, K. J., Meintjes, M., Han, Y., Reggio, B. C., Denniston, R. S., Gavin, W. G., Ziomek, C., & Godke, R. A. (2000). Comparing follicle stimulating hormone from two commercial sources for oocyte production from out-of-season dairy goats. *Journal of Dairy science*, 83, 484-487.

Greaney, K. B., McDonald, M. F., Vivanco, H. W., & Tervit, H. R. (1991). Out-of season embryo transfer in five breeds of imported sheep. *New Zealand Society of Animal Production*, 51, 129-131.

Greve, T., Avery, B., & Callesen, H.(1993). Viability of *in-vivo* and *in-vitro* produced bovine embryos. *Reproduction in Domestic Animals*, 28, 164-169.

Greve, T., Callesen, H., Hyttel, P., Hoier , R., & Assey, R., (1995). The effects of exogenous gonadotropins on oocyte and embryo quality in cattle. *Theriogenology*, 43, 41-50.

Greyling, J. P. C., & Van Der Nest, M. (2000). Synchronization of oestrous in goats: dose effect of progestagen. *Small Ruminant Research*, 36, 201-207.

Greyling, J. P. C., Van Der Nest, M., Schwalbach, L. M. J., & Muller, T.(2002). Superovulation and embryo transfer in South African Boer and indigenous feral goats. *Small Ruminant Research*, 43, 45-51.

Guignot, F., Bouttier, A., Baril, G., Salvetti, P., Pignon, P., Beckers, J. F., Touze, J. L., Cognie, J., Traldi, A. S, Cognie, Y., & Mermillod, P. (2006). Improved vitrification method allowing direct transfer of goat embryos. *Theriogenology*, 66, 1004-1011.

Han, Y., Meintjes, M., Graff, K., Denniston, R., Zhang, L., Ziomek, C., & R. A. Godke. (2001). Production of fresh and frozen-thawed transplant offspring from latter stage of IVF-derived caprine embryos. *Veterinary Record*, 149, 714-716.

Hasler, J. F. (1992). Current status and potential of embryo transfer and reproductive technology in dairy cattle. *Journal of Dairy science*, 75, 2857-2879.

Hawk, H. K. (1988). Gamete transport in the superovulated cow. *Theriogenology*, 29, 125-142.

Henderson, K. M., Weaver, A., Wards, R. L., Ball, K., Lun, S., Mullin, C., & McNatty, K. P. (1990). Oocyte production of ovarian steroid concentrations of immune rats in response to some commercial gonadotrophin preparations. *Theriogenology*, 2, 671-682.

Hernandez-Fonseca, H. J., Sayre, B. L., Butcher, R. L., & Inskeep, E. K. (2000). Embryotoxic effects adjacent and opposite to the early regressing bovine corpus luteum. *Theriogenology*, 54, 83-91.

Herrler, A., Elsaesser, F., Parvizi, N., & Niemann, H. (1991). Superovulation of dairy cows with purified FSH supplemented with defined amounts of LH. *Theriogenology*, 35, 633 (Abstract).

Herve, V., Roy, F., Bertin, J., Guillou, F., & Maurel, M. (2004). Anti equine Chorionic Gonadotropin (eCG) Antibodies Generated in Goats Treated with eCG for Induction of Ovulation Modulate the Luteinizing Hormone and Follicle-Stimulating Hormone Boiactivities of eCG Differently. *Endocrinology*, 145, 294-303.

Heyman, Y. (1985). Factors influencing the survival of whole and half-embryos transferred in cattle. *Theriogenology*, 23, 63-75.

Holness, D.H., Hale, D.H., & McCabe, C.T. (1980). Ovarian response to pregnant mare serum gonadotrophin and prostaglandin $F_{2\alpha}$ in Africander and Mashona cows. *Theriogenology*, 14, 375-381.

Holtz, W., & Sohnrey, B.. (1992). Oestrus induction during the anoestrous season in goats by means of intravaginal pessaries or subcutaneous implants. *In Lokeshwar, R.R. (Ed.), Recent Advances in Goat Production*. (pp. 1284–1289). New Delhi: Nutan Printers.

Holtz, W., Pereira, R. J. T., Suyadi, A., Wang, X. L., Padilla, G., & Sohnrey, B. (2000). Collection of goat embryos via transcervical route. *Proceedings in the 7th International Conference on Goats*, 7, 490-491.

Holtz, W. (2005). Recent developments in assisted reproduction in goats. *Small Ruminant Research*, 60, 95-110.

Humphrey W.D., Murphy, B.D., Rieger, D., Mapletoft, R.J., Manns, J., & Fretz, P.D. (1979). Effects of FSH/LH ratio of PMSG on ovulatory responses. *Theriogenology*, 11, 101 (Abstract).

Hyttel, P., Callesen, H., Greve, T., & Schmidt, M. (1991). Oocyte maturation and sperm transport in superovulated cattle. *Theriogenology*, 35, 91-109.

Ishwar, A. K., & Memon, M. A. (1996). Embryo transfer in sheep and goats: a review. *Small Ruminant Research*, 19, 35-43.

Iwasaki, S., Yoshiba, N., Ushijima, H., Watanabe, S., & Nakahar ,T. (1990). Morphology and proportion of inner cell mass of bovine blastocysts fertilized in vitro and in vivo. *Journal of Reproduction and Fertility*, 90, 279 (Abstract).

Izquierdo, D., Villamediana, P., & Paramio, M.T. (1999). Effect of culture media on embryo development from prepubertal goat IVM IVF oocytes. *Theriogenology*, 52, 847-861.

Izquierdo, D., Villamediana, P., Lopez-Bejar, M., & Paramio, M. T. (2002). Effect of in vitro and in vivoculture on embryo development from prepubertal goat IVM-IVF oocytes. *Theriogenology*, 57, 1431-1441.

Jabbour, H. N., & Evans, G. (1991a). Superovulation of Merino ewes with an ovine pituitary follicle stimulating hormone extract. *Reproduction, Fertility and Development*, 3, 561-569.

Jabbour, H. N., & Evans, G. (1991b). Ovarian and endocrine responses of Merino ewes to treatment with PMSG and / or FSH-P. *Animal Reproduction Science,* 26, 93-106.

Jainudeen, H. R., Wahid, H., & Hafez., E. S. E. (2000). Sheep and goats. In E.S.E. Hafez & B. Hafez (Eds), *Reproduction in Farm animals 7th Edition*. (pp. 172-181). USA: Lippincott Williams and Wilkins.

Johnson, S. K., Dailey, R. A., Inskeep, E. K., & Lewis, P. E. (1996). Effect of peripheral concentrations of progesterone on follicular growth and fertility in ewes. *Theriogenology*, 13, 69-79.

Kafi, M., & McGowan, M. R. (1997). Factors associated with variation in the superovulatory response of cattle. *Animal Reproduction Science*, 48, 137-157.

Kakar, M. A., Maddocks, S., Lorimer, M.F., Kleemann, D. O., Rudiger, S. R., Hartwich, K. M., & Walker, S. K. (2005). The effect of peri-conception nutrition on embryo quality in the superovulated ewe. *Theriogenology*, 64, 1090-1103.

Kanayama, K., Endo, T., & Sakuma, Y. (1993). Follicular recruitment for superovulation induction in rabbits by FSH dissolved in glycerol or a water-soluble salve base. *Animal Reproduction Science*, 32, 147-150

Kawate, N., Morita, N., Tsuji, M., Tamada, H., Inaba, T., & Sawada, T. (2000). Roles of pulsatile release of LH in the development and maintenance of corpus luteum function in the goat. *Theriogenology*, 54, 1133-1143.

Kelly, R. W., Thompson, K. E., Hawker, H., Crosbie, S. F., & McEwan, J. C. (1983). Liveweight, ovulation rate and wool growth responses of light and heavy ewes to differential feeding. *New Zealand Journal of Experimental Agriculture*, 11, 219-224.

Kelly, P., Duffy, P., Roche, J. F., & Boland, M. P. (1997). Superovulation in cattle: effect of FSH type and method of administration on follicular growth, ovulatory response and endocrine patterns. *Animal Reproduction Science*, 46, 1-14.

Keskintepe, L., Darwish, G. M., Kenimer, A. T., & Brackett, B. G. (1994). Term development of caprine embryos derived from immature oocytes in vitro. *Theriogenology*, 42, 527-535.

Kiessling, A. A., Hughes, W. H., & Blankevoort, M. R. (1986). Superovulation and embryo transfer in the dairy goat. *Journal of the American Veterinary Medical Association*, 188, 829-832.

Kim, S., Tanaka, T., & Kamomae, H. (2003). Different effects of subnormal levels of progesterone on the pulsatile and surge mode secretion of luteinizing hormone in ovariectomized goats. *Biology of Reproduction*, 69, 141-145.

Knights, M., Baptiste, Q.S., Dixon, A.B., Pate, J.L. Marsh, D.J., Inskeep E.K. & Lewis, P.E.(2003). Effects of dosage of FSH, vehicle and time of treatment on ovulation rate and prolificacy in ewes during the anestrous season. *Small Ruminant Research*, 50, 1-9.

Koeman, J., Keefer, C.L., Baldassarre, H., & Downey, B.R. (2003). Developmental competence of prepubertal and adult goat oocytes cultured in semi-defined media following laparoscopic recovery. *Theriogenology*, 60, 879-889.

Kojima, N., Stumpf, T. T., Cupp, A. S., Werth, L. A., Roberson, M. S., Wolfe, M. W., Kittok, R. J., & Kinder, J. E. (1992). Exogenous progesterone and progestins as used in estrous synchrony regimens do not mimic the corpus luteum in regulation of luteinizing hormone and 17 β-estradiol in circulation of cows. *Biology of Reproduction*, 47, 1009-1017.

Kuhholzer, B., & Brem, G. (1999). In vivo development of micro injected embryos from superovulated prepubertal slaughter lambs. *Theriogenology*, 51, 1297-1302.

Kumar, J., Osborn, J. C., Cameron, A. W. N., Batt, P. A., & Trounson, A. O. (1990). Premature condensation of chromatin induced in goat (*capra hircus*) oocytes after gonadotrophin treatment. *Reproduction, Fertility and Development*, 2, 661-670.

Kumar, J., Osborn, J. C., & Cameron, A. W. N.. (1991). Luteinizing hormone and follicle stimulating hormone induce premature condensation of chromatin in goat (*capra hircus*) oocytes. *Reproduction, Fertility and Development*, 3, 585-591.

Leboeuf, B. (1992). Extensive applications of artificial insemination in goats. *In Proceedings of the 5th International Conference on Goats*, 2, (pp 299-308). India.

Leboeuf, B., Baril, G., Maurel, M.C., Bernelas, D., Marcheteau, J., Berson , Y., Broqua, B., & Terqui, M. (1996). Effect of progestagen/PMSG repeated treatments in goats on fertility following artificial insemination (A.I.). *Proceedings of the 6th International Conference on Goats*, 2, (pp 827). China.

Leboeuf, B., Manfredi, E., Bouec, P., Piace`red, A., Bricee, G., Barilf, G., Broquae, C., Humblot, P., & Terqui, M. (1998). Artificial insemination of dairy goats in France. *Livestock Production Science*, 55, 193–203.

Lee, C.S., Fang, N.Z., Koo, D.B., Lee, Y.S., Zheng, G.D., Oh, K.B., Youn, W.S., Han, M., Kim, S.J., Lim, J.H., Shin, S.T., Jin, S.W., Lee, K.S., Ko, J.H., Koo, J.S., Park, C.S., Lee, K.S., Yoo, O.J., & Lee, K.K. (2000). Embryo recovery and transfer for the production of transgenic goats from Korean native strain, Capra *hircus aegagrus*. *Small Ruminant Research*, 37, 57-63

Lehloenya, K. C., Greyling, J. P. C., & Schwalbach, L. M. J. (2005). Reproductive performance of South African indigenous goats following oestrous synchronization and A.I. *Small Ruminant Research,* 57, 115-120

Lehloenya, K.C., Greyling, J.P.C., Schwalbach, L.M.J., & Grobler, S. (2006). Superovulatory response in Boer goats pre-treated with a GnRH agonist during the natural breeding season. *South Africa Journal of Animal Science,* Suppliment, 36, 63-66.

Lehloenya, K.C., Greyling, J.P.C., & Grobler, S. (2008). Effect of season on the superovulatory response in Boer goat does. *Small Ruminant Research*, 78, 74-79.

Lehloenya, K.C., Greyling, J.P.C., & Grobler, S. (2009). Effect of route of superovulatory gonadotrophin administration on the embryo recovery rate of Boer goat does. *Small Ruminant Research*, 87, 39-44.

Lehloenya, K.C. & Greyling, J.P.C. (2010). The ovarian response and embryo recovery rate in Boer goat does following different superovulation protocols, during the breeding season. *Small Ruminant Research*, 88, 38-43.

Lemaster, J. W., Seals, R. C., Hopkins, F. M., & Schrick, F. N. (1999). Effects of administration of oxytocin on embryonic survival in progestagen supplemented cattle. *Prostaglandins Other Lipid Mediators*, 57, 259-268.

Leoni, G., Boglioli, L., Pintus, P., Ledda, S., & Naitana, S. (2001). Sheep embryos derived from FSH/eCG treatment have a lower in vitro viability after vitrification than those derived from FSH treatment. *Reproduction Nutrition Development*, 41, 239-246.

Leyva-Ocariz, H., Munro, C., & Stabenfeldt, G. H. (1995). Serum LH, FSH, estradiol-17 β and progesterone profiles of native and crossbred goats in a tropical semiarid zone of Venezuela during the estrous cycle. *Animal Reproduction Science*, 39, 49-58.

Leyva, V., Buckrell B. C., & Walton, J. S. (1998). Regulation of follicular activity and ovulation in ewes by exogenous progestagen. *Theriogenology*, 50, 395-416.

Li, R., Cameron A. W. N., Batt, P. A., & Trounson, A. O. (1990). Maximum survival of frozen goat embryos is attained at the expanded, hatching and hatched blastocyst stages of development. *Reproduction, Fertility and Development*, 2, 345-350.

Lindsell, C. E., Rajkumar, K., Manning, A. W., Emery, S. K., Malpetoft, R. J., & Murphy, B. D.(1986). Variability in FSH : LH ratios among batches of commercially available gonadotrophins. *Theriogenology*, 25, 167. (Abstract)

Lopez-Sebastian, A., Cognie, Y., Cocero, M. J., De La Fuente, J., & Poulin, N. (1990). Effect of season and duration of FSH treatment on embryo production in sheep. *Theriogenology*, 34, 175-180.

Lonergan, P., Rizos, D., Ward, F., & Boland, M. P. (2001). Factors influencing oocyte and embryo quality in cattle. *Reproduction Nutrition Development*, 41, 427-437.

Lopez-Sebastian, A., Cognie, Y., Cocero, M. J., De La Fuente, J., & Poulin, N. (1990). Effect of season and duration of FSH treatment on embryo production in sheep. *Theriogenology*, 34, 175-180.

Lopez-Sebastian, A., Gonzalez-Bulnes, A., Santiago-Moreno, J., Gomez-Brunet, A., Townsend, E. C., & Inskeep, E. K. (1999). Effects of follicular status at treatment on follicular development and ovulation in response to FSH in Spanish Merino ewes. *Theriogenology*, 52, 505-514.

Lozano, J. M., Lonergan, P., Boland, M. P., & O´Callaghan, D. (2003). Influence of nutrition on the effectiveness of superovulation programmes in ewes: effect on oocyte quality and post-fertilization development. *Reproduction*, 125, 543-553.

Lu. M.C., Koji, T., Nakanishi, Y., Hamana, K., Takagi, M., Kubota, C., & Kojima, T. (2008). Luteal lifespan and fertility after estrus synchronization in goats. *Journal of Vetreinary Science*, 9, 95-101.

Lucy, M. C. (2003). Mechanisms linking nutrition and reproduction in postpartum cows. *Reproduction* Suppliment, 61, 415-427.

Mahmood, S., Koul, G. L., & Biswas, J. C. (1991). Comparative efficacy of FSH-P and PMSG on superovulation in Pashmina goats. *Theriogenology*, 35, 1191-1196.

Mani, A. U., Watson, E. D., & Mckelvey, W. A. C. (1994). The effects of subnutrition before or after embryo transfer on pregnancy rate and embryo survival in does. *Theriogenology*, 41, 1673-1678.

Mann, G. E., McNeilly, A. S., & Baird, D. T. (1992). Hormone production in vivo and in vitro from follicles at different stages of the oestrous cycle in the sheep. *Journal of Endocrinology*, 132, 225-234.

Martemucci, G., D'Alessandro , A., Toteda, F., Facciolongo, A. M., & Gambacorta, M. (1995). Embryo production and endocrine response in ewes superovulated with PMSG, with or without monoclonal anti-PMSG administered at different times. *Theriogenology*, 44, 691-703.

Maurer, R. R., Hunt, W.L., & Foote, R. H. (1968). Repeated superovulation following administration of exogenous gonadotrohpin in Dutch-belted rabbits. *Journal of Reproduction and Fertility*, 15, 93-102.

Maxwell, W.N.C., & Wilson, H.R. (1989). Superovulation and embryo recovery in ewes treated with a single injection of PMSG and FSH-P. *In Proceedings* of the *Australia Society of Reproduction Biology*, 21, 50.

McCracken, J. A., Schramm, W., & Okulicz, W. C. (1984). Hormone receptor control of pulsatile secretion of PGF2a from the ovine uterus during luteolysis and its abrogation in early pregnancy. *Animal Reproduction Science,* 7, 31-55.

McEvoy, T. G., Robinson, J. J., Aitken, R. P., Findlay, P. A., Palmer, R. M., & Robertson, I. S. (1995). Dietary-induced suppression of pre-ovulatory progesterone concentrations in superovulated ewes impairs the subsequent *in viv*o and *in vitro* development of their ova. *Animal Reproduction Science*, 39, 89-107.

McEvoy, T. G., Robinson, J. J., Aitken, R. P., Findlay, P. A., & Robertson, I. S. (1997). Dietary excesses of urea influence the viability and metabolism of preimplantation sheep embryos and may affect fetal growth among survivors. *Animal Reproduction Science,* 47, 71-90.

McGovern, P.T. (1973). The effect of maternal immunity on the survival of goat sheep hybrid embryos. *Journal of Reproduction and Fertility*, 34, 215-220.

McKelvey, W. A. C., Robinson, J. J., & Aitken, R. P. (1985). A simplified technique for the transfer of ovine embryos by laparoscopy. *The Veterinary Record*, 117, 492-494.

McMillan, W. H., & McDonald, M. F. (1985). Survival of fertilized ova from ewe lambs and adult ewes in the uteri of ewe lambs. *Animal Reproduction Science,* 8, 235-240.

McNatty, K. P., Hudson, N. L., Ball, K., Mason, A., & Simmons, M. H. (1989). Superovulation and embryo recovery in goats treated with Ovagen and Folltropin. *New Zealand Veterinary Journal*, 37, 27-29.

Medan, M. S., Watanable, G., Sasaki, K., Sharawy, S., Groome, N. P., & Taya, K. (2003). Ovarian dynamics and their associations with peripheral concentrations of gonadotrophins, ovarian steroids and inhibin during the estrous cycle in goats. *Biology of Reproduction,* 69, 57-63.

Melican, D., & Gavin, W. (2008). Repeat superovulation, non-surgical embryo recovery,and surgical embryo transfer in transgenic dairy goats. *Theriogenology*, 69,197-203.

Mellado, M., Olivas, R., & Ruiz, F. (2000). Effect of buck stimulus on mature and pre-pubertal norgestomet-treated goats. *Small Ruminant Research,* 36, 269-274.

Menchaca, A., & Rubianes, E. (2002). Relation between progesterone concentrations during the early luteal phase and follicular dynamic in goats. *Theriogenology*, 57, 1411-1419.

Menchaca, A., Pinczak, A., & Rubianes, E. (2002). Follicular recruitment and ovulatory response to FSH treatment initiated on Day 0 or Day 3 post ovulation in goats. *Theriogenology*, 58, 1713-1721.

Menchaca, A., Vilarinó, M., Crispo, m., Pinczak, A., & Rubianes, E. (2007). Day 0 Protocol: Superstimulatory treatment initiated in the absence of a large follicle improves ovarian response and embryo yield in goats. *Theriogenology*, 68, 1111–1117

Mikkola, M., Mäntysaari, P., Tammiranta, N., Peippo, J., & Taponen, J. (2005). Effect of dietary protein on embryo recovery rate and quality in superovulated heifers. *Animal Reproduction Science*, 87, 193-202.

Mitchell, L.M., Dingwall, W. S., Mylne, M.J.A., Hunton, J., Matthews , K., Gebbie, F.E., McCallum, G. J., & McEvoy, T. G. (2002). Season affects characteristics of the pre-ovulatory LH surge and embryo viability in superovulated ewes. *Animal Reproduction Science*, 74, 163-174.

Mogas, T., Palomo, M.J., Izquierdo , M.D., & Paramio, M.T., (1997). Developmental capacity of in vitro matured and fertilized oocytes from prepubertal and adult goats. *Theriogenology*, 47,1189-1203.

Monniaux, D., Chupin, D., & Saumande, J. (1983). Superovulatory responses of cattle. *Theriogenology*, 19, 55-81.

Moon, Y.S., Yun, Y.W., King, W.A., (1990). Detrimental effects of superovulation. *Semin. Reprod. Endocrinology*, 8, 232-241.

Moor, R.M., Kruip Th, A.M., & Green, D. (1984). Intraovarian control of folliculogenesis: Limits to superovulation. *Theriogenology*, 21, 103-116.

Moore, N.W., Rowson, E.A., & Short. R.V. (1960). Egg transfer in sheep. Factors affecting the survival and development of transferred eggs. *Journal of Reproduction and Fertility*, 1, 332-349.

Moore, N. W., & Shelton, J. N.. (1964). The response of the ewe to a horse anterior pituitary extract. *Journal of Reproduction and Fertility*, 52, 145 (Abstract).

Moore, N. W. (1974). Multiple ovulation and ovum transfer in the goat. *In Proceedings of the Australian Society of Animal Production*, 10, 246-249.

Moore, N. W., & J. Eppleston. (1979). Embryo transfer in the Angora goat. *Australian Journal of Agricultural Research*, 30, 973-981.

Moore, N. W. (1985). The use of embryo transfer and steroid hormone replacement therapy in the study of prenatal mortality. *Theriogenology*, 23, 121-128.

Morand-Fehr, P., & Boyazoglu, J. (1999).Present state and future outlook of the small ruminant sector. *Small Ruminant Research*, 34, 175-188.

Moyaert, I., Bouters, R., Schonherr, O. T., Wilderbeek, A. T. M., Coert, A., Coryn, M., & Vandeplassche, M. (1985). The control of superovulation in the bovine with a monoclonal PMSG antibody. *Theriogenology*, 23, 210 (Abstract)

Murphy, B. D., Mapleton, R. J., Manns, J., & Humphrey, W. D., (1984). Variability in gonadotrophin preparation as a factor in superovulatory response. *Theriogenology*, 21, 117-125.

Nagashima, H., Matsui, K., Sawasaki, T., & Kano, Y. (1987). Nonsurgical collection of embryos in Shiba goats. *Experimental Animals*, 36, 51-56.

Naqvi, S. M. K. & Gulyani, R. (1998). The effect of gonadotrophin releasing hormone and follicle stimulating hormone in conjunction with pregnant mare serum gonadotrophin on the superovulatory response in crossbred sheep in India. *Tropical Animal Health and Production*, 30, 369-376.

Noel, B., Bister, J. L., Pierquin, B., & Paquay, R. (1994). Effects of FGA and PMSG on follicular growth and LH secretion I Suffolk ewes. *Theriogenology*, 41, 719-727.

Nolan, R., D. O´Callaghan, Duby, R. T., Lonergan, P., & Boland, M. P. (1998). The influence of short-term nutrient changes on follicle growth and embryo production following superovulation in beef heifers. *Theriogenology*, 50, 1263-1274.

Nowshari, M.A., & Holtz, W. (1993). Transfer of split goat embryos without zonae pellucidae either fresh or after freezing. *Journal of Animal Science*, 71, 3403-3408.

Nowshari, M. A., Nayudu, P. L., & Hodges, J. K. (1994). Effect of cryoprotectant concentration, equilibration time and thawing procedure on survival and development of rapid frozen-thawed mature mouse oocytes. *Theriogenology*, 42, 1193-1203.

Nowshari, M. A., Beckers, J. F., & Holtz, W. (1995a). Superovulation of goats with purified pFSH supplemented. *Theriogenology*, 43, 797-802.

Nowshari, M. A., & Holtz , W. (1995b). In vitro culture of goat morulae to blastocysts before freezing. *Theriogenology*, 44, 983-988.

Nuti, L. C., Minhas, B. S., Baker, W. C., Capehart, J. S., & Marrack, P. (1987). Superovulation and recovery of zygotes from Nubian and Alpine dairy goats. *Theriogenology*, 28, 481-488.

O´Callaghan, D., Yaakub, H., Hyttel, P., Spicer L. J., & Boland, M. P. (2000). Effect of nutrition and superovulation on oocyte morphology, follicular fluid composition and systemic hormone concentrations in ewes. *Journal of Reproduction and Fertility*, 118, 303-313.

Oliveira, M. A. I., Guido, S. I., & Lima, P. F. (2001). Comparison of different protocols used to induce and synchronize estrus cycle of Saanen goats. *Small Ruminant Research*, 40, 149-153.

Ongeri, E.M., Bormann, C.L., Butler, R.E., Melican, D., Gavin, W.G., Echelard, Y., Krisher, R.L., & Behboodi, E. (2001). Development of goat embryos after in vitro fertilization and parthenogenetic activation by different methods. *Theriogenology*, 55, 1933-1945.

Oppenheim, S. M., Moyer, A. L., BonDurant, R. H., Rowe, J. D., & Anderson, G. B. (2000). Successful pregnancy in goats carrying their genetically identical conceptus. *Theriogenology*, 54, 629-639.

Padilla, G., Sohnrey, B., & Holtz, W. (2005). Early pregnancy detection by real-time ultrasonography in Boer goats. *Small Ruminant Research*, 58, 87-92.

Palasz, A. T., & Mapletoft, R. J. (1996). Cryopreservation of mammalian embryos and oocytes: recent advances. *Biotechnology Advances*, 14, 127-149.

Palomo, M.J., Izquierdo, D., Mogas, T., & Paramio, M.T. (1999). Effect of semen preparation on IVF of prepubertal goat oocytes. *Theriogenology*, 51, 927-940.

Papadopoulos, S., Rizos, D., Duffy, P., Wade, M., Quinn, K. Boland, M.P., & Lonergan, P. (2002). Embryo survival and recipient pregnancy rates after transfer of fresh or vitrified, in vivo or in vitro produced ovine blastocysts. *Animal Reproduction Science*, 74, 35-44.

Papkoff, H. (1981). Variations in the properties of equine chorionic gonadotropin. *Theriogenology*, 15, 1-11.

Parr, R. A., Davis, I. F., Fairclough, R. J., & Miles, M. A. (1987). Overfeeding during early pregnancy reduces peripheral progesterone concentration and pregnancy rate in sheep. *Journal of Reproduction and Fertility*, 80, 317-320.

Parr, R. A. (1992). Nutrition-progesterone interactions. *Reproduction, Fertility and Development*, 4, 297-300.

Parr, R. A., Davis, I. F., Miles, M. A., & Squires, T. J. (1993). Feed intake affects metabolic clearance rate of progesterone in sheep. *Research in Veterinary Science*, 55, 306-310.

Parry, A. L., Edmonds, D. K., Knight, T. W., & Hamilton, G. J. (1990). The effect of pre-mating feeding level and age on liveweight change on reproductive performance of cashmere does. *New Zealand Society of Animal Production*, 50, 477-478.

Parrilla, I., Vazques, J.M., Roca, J., & Martinez, E.A. (2004). Flow cytometry identification of X- and Y-chromosome-bearing goat spermatozoa. *Reproduction in Domestic Animals*, 39, 58-60.

Paula, N.R.O., Galeati, G., Teixeira, D.I.A., Lopes (Jr), E.S., Freitas, V.J.F., & Rondina, D. (2005). Responsiveness to progestagen-eCG-Cloprostenol treatment in goat food restricted for long period. *Reproduction in Domestic Animals*, 40, 108-110.

Pawshe, C. H., Totey, S. M., & Jain, S. K. (1994). A comparison of three methods of recovery of goat oocytes for in vitro maturation and fertilization. *Theriogenology*, 42, 117-125.

Pendleton, R. J., Youngs, C. R., Rorie, R. W., Memon, M. A., & Godke, R. A. (1986). The use of Norgestomet implants and FSH for estrus synchronization and superovulation in goats. *Theriogenology*, 25, 180 (Abstract).

Pendleton, R. J., Youngs, C. R., Rorie, R. W., Pool, S. H., Memon, M. A., & Godke, R. A. (1992). Follicle stimulating hormone versus pregnant mare serum gonadotropin for superovulation of dairy goats. *Small Ruminant Research*, 8, 217-224.

Pereira, R. J. T. A., Sohnrey, B., & Holtz, W. (1998). Nonsurgical embryo collection in goats treated with prostaglandin $F_{2\alpha}$ and oxytocin. *Journal of Animal Science*, 76, 360-363.

Perry, A.C., Rothman, A., de las Heras, J.I., Feinstein, P., Mombaerts, P., Cooke, H.J., & Wakayama, T. (2001). Efficient metaphase II transgenesis with different transgene archetypes. *Nature Biotechnology*, 19, 1071-1073.

Peura, T. T., Kleemann, D. O., Rudiger, S. R., Nattrass, G. S., McLaughlan, C. J., & Walker, S. K. (2003). Effect of nutrition of oocyte donor on the outcomes of somatic cell nuclear transfer in sheep. *Biology of Reproduction*, 68, 45-50.

Phua., A.C.Y. (2006). Development of a PCR-based method for sex determination of caprine embryos produced from in vitro maturation, fertilization and culture techniques. (Master's thesis). University of Malaya, Malaysia.

Picazo, R. A., Cocero, M. J., Barragan, M. L., & Lopez-Sebastian, A. (1996). Effects of LH administration at the end of an FSH superovulatory regimen on ovulation rate and embryo production in three breeds of sheep. *Theriogenology*, 45, 1065-1073.

Pintado, B., Gutierrez-Adan, A., & Perez Llano, B. (1998). Superovulatory response of Murciana goats to treatments based on PMSG/anti-PMSG or combined FSH/PMSG administration. *Theriogenology*, 50, 357-364.

Pollard J. W., & Leibo, S. W. (1994). Chilling sensitivity of mammalian embryos. *Theriogenology*, 41, 101-106.

Puls-Kleingeld, M., Nowshari, M. A., & W. Holtz. (1992). Cryopreservation of goat embryos by the one-step or three-step equilibration procedure. In Lokeshwar, R. R. (Ed.), Recent Advances in Goat Production (pp 1388-1391). New Delhi, India: Nutan Printers.

Quan., F, Zhang, Z., An, Z., Hua, S., Wan, M., Zhao, X., & Zhang, Y. (2010). Effect of transporting donor or recipient does and their embryos on the outcome of fresh embryo transfer in boer goats. *Small Ruminant Research*, 88, 1-5.

Quinlivan, T.D., & Robinson, T.J. (1969). Numbers of spermatozoa in the genital tract after artificial insemination of progestagentreated ewes. *Journal of Reproduction and Fertility*, 19, 73-86.

Quirke, J. F., & Hanrahan, J. P. (1977). Comparison of the survival in the utery of adult ewes of cleaved ova from adult ewes and ewe lambs. *Journal of Reproduction and Fertility*, 51, 487-489.

Rahman., A.N.M.A. (2008). Goat embryo production from *in vitro* matured heterogeneous oocytes fertilised by intracytoplasmic sperm injection (ICSI) technique. (Doctoral dissertation). University of Malaya, Kuala Lumpur, Malaysia.

Rangel-Santos, R., McDonald, M. F., & Wickham, G. A. (1991). Evaluation of the feasibility of a juvenile MOET scheme in sheep. *New Zealand Society of Animal Production*, 51, 139-142.

Reggio, B.C., James, A. N., Green, H. L., Gavin, W. G., Behboodi, E., Echelard, Y., & Godke, R. A. (2001). Cloned transgenic offspring resulting from somatic cell nuclear transfer in the goat: oocytes derived from both follicle-stimulating hormone-stimulated and nonstimulated abattoir-derived ovaries. *Biology of Reproduction*, 65, 1528-1533.

Remy, B., Baril, G., Vallet, J. C., Dufour, R., Chouvet, C., Saumande, J., Chupin, D., & Beckers, J. F. (1991). Are antibodies responsible for a decreased superovulatory response in goats which have been treated repeatedly with porcine follicle-stimulating hormone. *Theriogenology*, 36, 389-399.

Revah, I., & Butler, W. R. (1996). Prolonged dominance of follicles and reduced viability of bovine oocytes. *Journal of Reproduction and Fertility*, 106, 39-47.

Rexroad C. E., & Powell, A. M.(1990). FSH injections and intrauterine insemination in protocols for superovulation of ewes. *Journal of Animal Science*, 69, 246-251.

Rhind, S. M. (1992). Nutrition: its effects on reproduction performance and its hormonal control in female sheep and goats. Progress in sheep and goat research. U. K: CAB International.

Rosnina, Y. (1989). Superovulation and egg recovery in goats (Master's Thesis). Universiti Pertanian Malaysia. Serdang. Malaysia.

Rosnina, Y., Jainudeen, M. R., & Nihayah, M. (1992). Superovulation and egg recovery in goats in the tropics. *Veterinary Record*, 130, 97-99.

Rowson, L. E. A. (1971). Egg transfer in domestic animals. *Nature*, 233, 379-381.

Roy, F., Maurel, M., Combes, B., Vaiman, D., Cribiu, E. P., Lantier, I., Pobel, T., Deletang, F., Combarnous ,Y., & Guillou, F. (1999). The negative effect of repeated equine chorionic gonadotrophin treatment on subsequent fertility in Alpine goats is due to a humoral immune response involving the major histo compatibility complex. *Biology of Reproduction*, 60, 805-813.

Rubianes, E., Ibarra, D., Ungerfeld, R., de Castro, T., & Carbajal, B. (1995). Superovulatory response in anestrous ewes is affected by the presence of a large follicle. *Theriogenology*, 43, 465-472.

Rubianes, E., Ungerfeld, R., Vinoles, C., Rivero, A., & Adams, G. P. (1997). Ovarian response to gonadotropin treatment initiated relative to wave emergence in ultrasonographically monitored ewes. *Theriogenology*, 47, 1479-1488.

Rubianes, E., & A. Menchaca. (2003). The pattern and manipulation of ovarian follicular growth in goats. *Animal Reproduction Science,* 78, 271-287.

Saharrea, A., Valencia, J., Balcazar, A., Meija, O., Cerbon, J. L., Caballero, V., & Zarco, L. (1998). Premature luteal regression in goats superovulated with PMSG: effect of hCG or GnRH administration during the early luteal phase. *Theriogenology*, 50, 1039-1052.

Samartzi, F.M., Boscos, C., Vainas, E., & Tsakalof, P. (1995). Superovulatory response of Chios sheep to PMSG duding spring and autumn. *Animal Reproduction Science*, 39, 215-222.

Santiago-Moreno, J. D. M. V., Gonzalez-Bulnes, A. , Gomez-Brunet, A., Cocero, M. J., del Campo A., Garcia-Garcia R., & Lopez-Sebastian, A. (2001). Procedure for successful interspecific embryo transfer from mouflon (ovis gmelini musimon) to Spanish merino sheep (ovis aries). *Journal of Zoo and Wildlife Medicine,* 32, 336-341.

SPSS (2008). IBM Corporation. NY 10504, USA.

Sasada, H., Yamauchi, E., Sato, S., Yamauchi, N. , Hamano, K., & Sato E. (2001). Ovulation rate, embryo recovery and development in hormone-induced ovulation goats treated with $PGF_{2\alpha}$ analoque. *Journal of Mammalian Ova Research*, 18, 89-92.

Saumande, J., Procureur, R., & Chupin, D. (1984). Effect of injection time of anti-PMSG antiserum on ovulation rate and quality of embryos in superovulated cows. *Theriogenology*, 21, 727-731.

Savio, J. D., Thatcher, W. W., Badinga, L., de la Sota R. L., & D.W. Wolfenson. (1993a). Regulation of dominant follicle turnover during the oestrous cycle in cows. Journal of *Reproduction and Fertility*, 97, 197-203.

Savio, J. D., Thatcher, W. W., Morris, G. R., Entwistle, K., Drost, M., & Mattiacci, M. R. (1993b). Effects of induction of low plasma progesterone concentrations with a progesterone-releasing intravaginal device on follicular turnover and fertility in cattle. *Journal of Reproduction and Fertility*, 98, 77-84.

Scaramuzzi, R. J., Campbell, B. K., Downing, J. A., Kendall, N. R., Khalid, M., Muñoz-Gutiérrez, M., & Somchit, A. (2006). A review of the effects of supplementary nutrition in the ewe on the concentrations of reproductive and metabolic hormones and the mechanisms that regulate folliculogenesis and ovulation rate. *Reproduction Nutrition Development*, 46, 339-354.

Schwarz, T., & Wierzchos, E. (2000). Relationship between FSH and ovarian follicular dynamics in goats during the estrous cycle. *Theriogenology*, 53, 381.

Scudamore, C. L., Robinson, J. J., Aitken, R. P., & Robertson, I. S. (1992). A comparison of two dosages of fluorogestone acetate in pessaries on the quality of embryos recovered from superovulated ewes. *Theriogenology*, 37, 445-457.

Scudamore, C. L., Robinson, J. J., Aitken, R. P., & Robertson, I. S. (1993a). The effect of method of estrous synchronization on the response of ewes to superovulation with porcine follicle stimulating hormone. *Animal Reproduction Science*, 34, 127-133.

Scudamore, C. L., McEvoy, T. G., Aitken, R. P., Robinson, J. J., & Robertson, I. S. (1993b). The effect of two different levels of progesterone priming on the response of ewes to superovulation. *Theriogenology*, 39, 433-442.

Seals, R. C., Lemaster, J. W., Hopkins, F. M., & Schrick, F. N.. (1998). Effects of elevated concentrations of prostaglandin $F_{2\alpha}$ on pregnancy rates in progestogen supplemented cattle. *Theriogenology*, 56, 377-389.

Sebastian-Lopez, A., Cognie, Y., Cocero, M. J., De la Fuente, J., & Poulin, N. (1990). Effect of season and duration of FSHp treatment on embryo production in sheep. *Theriogenology*, 34, 175-180.

Senn, B.J., & Richardson, M.E. (1992). Seasonal effects on caprine response to synchronization of estrus and superovulatory treatment. *Theriogenology*, 371, 579-685.

Selgrath, J. P., Memon, M. A., Smith, T. E., & Ebert, K. M.. 1990. Collection and transfer of microinjectable embryos from dairy goats. *Theriogenology*, 34, 1195-1205.

Selvaraju, S., Agarwal, S. K., Karche, S. D., & Majumdar, A. C. (2003). Ovarian response, embryo production and hormonal profile in superovulated goats treated with insulin. *Theriogenology*, 59, 1459-1468.

Senger, P. L., (2003). Pathways to pregnancy and parturition. *Current Conceptions* (pp 373), Washington, USA: Incorporation.

Senn, B. J., & Richardson, M. E. (1992). Seasonal effects on caprine response to synchronization of estrus and superovulatory treatment. *Theriogenology*, 37, 579-585.

Senthil Kumar, P., Saravanan, D., Rajasundaram, R. C., Selvaraju, M., & Kathiresan, D. (2003). Serum oestradiol and progesterone profiles and their relationship with superovulatory responses in Tellicherry goats treated with eCG and FSH. *Small Ruminant Research*, 49, 69-77.

Shamsul A.A.S.(1997). Effects of superovulation regimes on steroid hormones and embryo production for laparoscopic embryo transfer programme in goats (Master's Thesis). University of Malaya, Kuala Lumpur.

Simonetti, L., Forcada F., Rivera, O.E., Carou, N., Alberio, R.H., Abecia, J.A., & Palacin, I. (2008). Simplified superovulatory treatments in Corriedale ewes. *Animal Reproduction Science*, 104, 227–237

Simões, J., Potes, J., Azevedo, J., Almeida, J.C., Fontes, P., Baril G., & Mascarenhas R. (2005). Morphometry of ovarian structures by transrectal ultrasonography in Serrana goats. *Animal Reproduction Science*, 85, 263–273.

Simões, J., Almeida, J.C., Baril, G., Azevedo, J., Fontes, P., & Mascarenhas. R. (2007). Assessment of luteal function by ultrasonographic appearance and measurement of corpora lutea in goats. *Animal Reproduction Science*, 97, 36–46.

Schmidt, M., Greve, T., & Callensen, H. (1988). Superovulation of cattle with FSH containing standardized LH amount. *In Proceedings of the 11th International Congress on Animal Reproduction and Artificial Insermination.* 2, 191. (Abstract)

Souza, C. J. H., Campbell, B. K., & Baird, D. T. (1998). Follicular waves and concentrations of steroids and inhibin A in ovarian venous blood during the luteal phase of the oestrous cycle in ewes with an ovarian autotransplant. *Journal of Endocrinology*, 156, 563-572.

Stefani, J. S., Palha, M. D. C., Christmann, L., Rosa, J. M., Silveira, M. C., & Rodrigues J. L. (1990). Laparoscopic versus surgical transfer of ovine embryos. *Theriogenology*, 33, 330 (Abstract).

Stubbings, R. B., Bosu, W. T. K., Barker, C. A. V., & G. J. King. (1986). Serum progesterone concentrations associated with superovulation and premature corpus luteum failure in dairy goats. *Canadian Journal of Veterinary Research*, 50, 369-373.

Suyadi, B., Sohnrey, W., & Holtz, W. (2000). Transcervical embryo collection in Boer goats. *Small Ruminant Research*, 36, 195-200.

Symonds, H. W., & Prime, G. (1989). The influence of volume of food intake by gilts on blood flow in the portal vein and clearance of progesterone from plasma. *Animal Production*, 48, 620-621.

Sźell, A., & Hudson R. H. H. (1991). Factors affecting the survival of bisected sheep embryos *in vivo*. *Theriogenology*, 36, 379-387.

Sźell, A., MacLeod, I. M., Windsor, D. P., & Kelly R. W. (1994). Production of identical twin lambs by embryo splitting. *Theriogenology*, 41, 1643-1652.

Takedomi, T., Kaneko, H., Aoyagi, Y., Nakanishi, Y., & Taya, K. (1995). Effects of passive immunization against bovine inhibin on ovulation rate and circulating FSH level in holstein heifers. K. *Theriogenology*, 43, 333.

Tegegne, A., Lahlou-Kassi, A., & Mukasa-Mugerwa, E. (1997). The effect of season superovulatory response, embryo yield and quality in Boran and Boran × Friesian crossbred cows. *Theriogenology*, 47, 180 (Abstract).

Tervit, H. R., Goold, P. G., & McKenzie, R. D. (1986). Development of an effective goat embryo transfer regime. *New Zealand Society of Animal Production*, 46, 233-236.

Tervit, H. R. (1987). Factors affecting the success of goats' embryo transfer. *In Proceedings of the 4th AAAP Animal Science Congress*, 262-266.

Tervit, H. R., Thompson, J. G., Mcmillan, W. H. , & N. C. Amyes. (1991). Repeated surgical embryo recovery from Texel donor ewes. *Theriogenology*, 35, 282 (Abstract).

Thibier, M., & Guerin, B. (2000). Embryo transfer in small ruminants: the method of choice for health control in germplasm exchanges. *Livestock Production Science*, 62, 253-270

Thompson, J. G., Bell, A. C. S., McMillan, W.H., Peterson A. J., & Tervit, H. R. (1995). Donor and recipient ewe factors affecting in vitro development and posttransfer survival of cultured sheep embryos. *Animal Reproduction Science*, 40, 269-279.

Thompson, J. G. (1997). Comparison between *in vivo*-derived and *in vitro*-produced pre-elongation embryos from domestic ruminants. *Reproduction, Fertility and Development*, 9, 341-354.

Tibary, A., Anouassi, A., & Khatir, H. (2005). Update on reproductive biotechnologies in small ruminants and camelids. *Theriogenology*, 64, 618-638

Torres, S., Cognie, Y., & Colas, G. (1987). Transfer of superovulated sheep embryos obtained with different FSH-P. *Theriogenology*, 27, 407-419.

Torres, S., & Sevellec, C. (1987). Repeated superovulation and surgical recovery of embryos in the ewe. *Reproduction Nutrition Development*, 27, 859-863.

Traldi, A. S., Leboeuf, B., Cognié ,Y., Poulin N., & Mermillod, P. (1999). Comparative results of in vitro and in vivo survival of vitrified in vitro produced goat and sheep embryos. *Theriogenology*, 51, 175 (Abstract).

Tsunoda, Y., Tokunaga, T., Okubo, Y., & Sugie, T. (1987). Beneficial effect of agar for the frozen storage of bisected embryos. *Theriogenology*, 28, 317 (Abstract).

Twagiramungu, H., Guilbault L. A., & Dufour, J. J. (1995). Synchronization of ovarian follicular waves with gonadotrophin-releasing hormone agonist to increase the precision of estrus in cattle: a review. *Journal of Animal Science*, 73, 141-151.

Veiga-Lopez, A., Gonzalez-Bulnes, A., Garcia-Garcia, R. M., Dominguez, V., & Cocero, M. J. (2005). The effects of previous ovarian status on ovulation rate and early embryo development in response to superovulatory FSH treatments in sheep. *Theriogenology*, 63, 1973-1983.

Vinoles, C., Meikle, A., Forsberg, M., & Rubianes, E. (1999). The effect of subluteal levels of exogenous progesterone on follicular dynamics and endocrine patterns during the early luteal phase of the ewe. *Theriogenology*, 51, 1351-1360.

Vivanco, H. M., Greany, K.B., & Varela, H. (1994). Explaining the variability in superovulatory responses and yield of transferable embryos in sheep embryo transfer. *Theriogenology*, 41, 329 (Abstract)

Wade, G. N., & Jones, J. E. (2005). Neuroendocrinology of nutritional infertility. *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology*, 287, 1277-1296.

Walker, S. K., Smith, D. H., Frensham, A., Ashman, R. J., & Seamark, R. F. (1989). The use of synthetic gonadotropin releasing hormone treatment in the collection of sheep embryos. *Theriogenology*, 31, 741-753.

Wallace, J. M. (1992). Artificial insemination and embryo transfer. In: Progress in sheep and goat research. U. K: CAB International.

Wang, B., Baldassarre, H., Pierson, J., Cote, F., Rao, K. M., & Karatzas, C. N. (2003). The in vitro and in vivo development of goat embryos produced by intracytoplasmic sperm injection using tail-cut spermatozoa. *Zygote*, 11, 219-227.

Webb, E. C., Dombo, M. H., & Roets, M. (2004). Seasonal variation in semen quality of Gorno Altai cashmere goats and South African indigenous goats. *South Africa Journal of Animal Science* Suppliment, 34, 240-243.

Wehrman, M. E., Fike, K. E., Melvin, E. J., Kojima, F. M., & Kinder, J. E. (1997). Development of a persistent ovarian follicle and associated elevated concentrations of 17_{β}-estradiol preceding ovulation does not alter the pregnancy rate after embryo transfer in cattle. *Theriogenology*, 47, 1413-1421.

Wells, D. G., Thompson, J. G .E., Tervit, H. R., James, R. W., & Udy, G. B. (1990). Experiences in application of embryo bisection in sheep MOET programmes. *New Zealand Society of Animal Production*, 50, 431-435.

Wheaton, J. E., Carlson, K. M., Windels, H. F., & Johnston. L. J. (1993). CIDR– a new progesterone-releasing intravaginal device for induction of estrus and cycle control in sheep and goats. *Animal Reproduction Science*. 33,127-141.

Willett, E. L., & Buckner, P. J. (1953). Refractoriness of cows repeatedly superovulated with gonadotrophins. *Journal of Dairy Science*, 36, 1083-1088.

Wright, R. W., Jr. Bondioli, K., Grammer, J., Kuzan, F., & Jr. Menino, A. (1981). FSH or FSH plus LH superovulation in ewes following estrus synchronization with medroxyprogesterone acetate pessaries. *Journal of Animal Science*, 52, 115-118.

Wuliji, T., Aspinall, J., Land, J. T. J., Shackell, G. H., Dodds, K. G., Andrews, R. N., & Rogers, J. (1995). MOET in ultrafine Merinos: An experimental evaluation. *New Zealand Society of Animal Production*, 55, 281-284.

Wulster-Radcliffe, M. C., Costine, B. A., & Lewis, G. S. (1999). Esradiol-17β-oxytocin – induced cervical dilation in sheep: application to transcervical embryo transfer. *Journal of Animal Science*, 77, 2587-2593.

Yaakub H., O'Callaghan, D., O'Dohertyt, J.V., & Hyttels, P. (1997). Effect of dietary intake on follicle numbers and ogcyte morphology in unsuperovulated and superovulated ewes. *Theriogenology*, 41, 182 (Abstract).

Yang, Z. M., Tan, J. H., & Qin, P. C. (1991). A preliminary study on the preimplantation development in goats. *Acta Veterinaria et Zootechica Sanica*, 22, 32-37.

Yong, Z., & Wang, J. (1990). Production of monozygotic goat twins by transfer of frozen-thawed demi-embryos. Theriogenology, 33, 361 (Abstract).

Yuswiati, E., & Holtz, W. (1990). Successful transfer of vitrified goat embryos. *Theriogenology*, 34, 629-632.

Yuswiati, E., & Holtz, W. (1996). Superovulation with different exogenous gonadotropins in peripubertal goats. *Indian Journal of Animal Science*, 66, 131-133.