

()

.

(Buserelin)

(GnRH-agonist)

.

()

(Normal Saline)

PMSG

PMSG

.%

%

%

(% ,)

%

%

%

(p<0.03)

Abstract

The main objective of this study were to the ultrasonography scanning to determine pregnancy in Awasi ewes treated with Buserelin (which is a GnRH-agonist) to examine Buserelin ability to to maintain pregnancy in Awasi ewes. Ewes were divided into two groups (28 ewes/ group). In the first group, ewes were injected with 10 micrograms of Buserelin (intra-muscular) 12 days after the start of mating. In the second group (control), ewes were injected with normal saline. Estrus were synchronized in all ewes using intravaginal progestagen sponges. An intramuscular 500 IU injection of PMSG were given to all ewes soon after sponges removal. Natural mating was made by the introduction of three adult ram to each group 24 hours after PMSG injection, these rams were taken out 25 days later. Pregnancy were determined 90 days after the start of mating and Lambing rate were recorded for each treatment.

The percentage of accuracy in using ultrasonography scanning to determine pregnancy at 90 days after the start of mating were 95.2%. No significant differences were found between the two treatments in the percentage of lambing resulted from mating at the first estrus after progestagen sponge removal which was 35.7% and 39.3% for Buserelin and control treated ewes respectively. Also there were an increase in the total percentage of lambing resulted from both, the first and the second estrus which was 82% and 67.9% for Buserelin and control treated ewes respectively. However, this increase was not significant. There was a significant differences in the percentage of lambing resulted from mating at the second estrus after sponge removal which was 46.4% and 28.6% for Buserelin and control treated ewes respectively ($P<0.03$).

These results indicate the possibility of using ultrasonography scanning to determine pregnancy in Awasi ewes treated with Buserelin in order to increase their pregnancy and lambing rates.

.

— .

%

. (Bolet, 1986)

. (Ashworth et al., 1989)

.
(Ashworth et al., 1989; McMillan, W. H., 1987; Davis
et al., 1986)

. (Davis and Beck, 1992)

(GnRH)

(Buserelin)

(GnRH)

. (McMillan et al., 1986)

(MacMillan et al., 1985)

(antiluteolytic)

(PGF₂α)

.(Beck et al., 1996; McMillan et al., 1986)

%

%

(Ingraham et al., 1974)

Gwazdauskas)

. (et al., 1973; Putney et al., 1988

Gwazdauskas)

FSH

. (et al., 1981

. (Wise et al., 1988)

. GnRH

()

.

-

- ,

-

.

/

.

()

.

Normal Saline

(PMSG)

PMSG

(ULTRASONOGRAPHY SCANNER)

t-

SAS

test

(Watton, 1993)

%

.%

-

()

()

% ,

% ,

.(P<0.03)

.(% ,)

(%)

()

()	()	
() % ,	() % ,	

() % ,	() % ,	
() % ,	() %	

.%

.

(/)

:()

	()	()	
'	'	'	
'	'	'	
'	'	'	
'	'	'	
'	'	'	
'	'	'	
'	'	'	
'	'	'	
'	'	'	
'	'	'	
'	'	'	
'	'	'	
'	'	'	
'	'	'	
'	'	'	

%

(luteotrophic)

(MacMillan et al., 1985)

.(McMillan et al., 1986)

(priming effect)

Basiouni et al., 1996; Haresign et al.,)

.(1996

Ashworth, C. J., Sales, D. I. And Wilmut, I., 1989. Evidence of an association between the survival of embryos and preovulatory plasma progesterone concentration in the ewe. *J. Reprod. Fert.* 87:23-32.

Basiouni, G. F., Khalid, M. and Haresign, W., 1996. Effect of bovine follicular fluid treatment and progesterone priming on luteal function in GnRH treated seasonally anoestrous ewes. *Animal Science* 62:443-450

Beck, N. F., Jones, M. Davis, B. Mann, G. E. and Peters, A. R., 1996. The effect of GnRH Analogue (Buserelin) treatment on Day 12 post mating on various structure and plasma progesterone and oestradiol concentrations in Ewes. *British Society of Animal Science* 63(3):407.

Beck, N. F. G., A. R. Peters and S. P. Williams, 1994. The effect of GnRH agonist (buserelin) treatment on day 12 post mating on the reproductive performance of ewes. *Anim. Prod.* 58:243-247.

Bolet, G., 1986. Timing and extent of embryonic mortality in pigs, sheep and goats: genetic variability. In: *Embryonic mortality in Farm Animals* (ed, J. M. Sreenan and M. G. Diskin). Pp. 13-43. Martinus Nijhoff, The Hague.

Davis, I. F., Kerton, D. J., Parr, R. A., White, M. B. and Williams, A. H., 1986. Hormone supplementation to increase fertility after uterine artificial insemination in ewes. *Proceedings of the Australian Society of Animal Production.* 16:171-173.

Davis, M. C. G. and Beck, N. F. G., 1992. Plasma hormone profiles and fertility in ewe lambs given progesterone supplementation after mating. *Theriogenology* 38:513-526

Gwazdauskas, F. C., Thatcher, W. W. Kiddy C. A., Paape, M. J. & Wilcox C. J., 1981. Hormonal patterns during heat stress following PGF₂ α -tam salt induced luteal regression in heifers. *Theriogenology* 16:271-285.

Gwazdauskas, F. C., Thatcher, W. W. and Wilcox, C. J., 1973. Physiological environmental and hormonal factors at insemination which may affect conception. *J. Dairy Sci.* 56:873-877.

Haresign, W., Basiouni, G. F. and Khalid, M., 1996. Effect of progesterone priming on gonadotropin secretion and luteal function in GnRH-treated seasonally anoestrous ewes. *Animal Science* 62:97-103

Ingraham, R. H., Qillette, D. D. and Wagner, W. D., 1974. Relationship of temperature and humidity to conception rate of Holstein cows in subtropical climate. *J. Dairy Sci.* 57:476-481.

MacMillan, K. L., Day, A. M., Taufu, V. K., Gibb, M. and Pearce, M. G., 1985. Effect of an agonist of gonadotrophin releasing hormone (buserelin) in cattle. 1. Hormone concentrations and oestrous cycle length. *Anim. Reprod. Sci.* 8:203-212.

McMillan, W. H., 1987. Post-mating progesterone supplementation in ewes and hoggets. *Proceedings of New Zealand Society of Animal Production* 47:151-153

McMillan, W. H., Knight, T. W. and MacMillan, K. L., 1986. Effects of gonadotrophin releasing hormone (buserelin) on sheep fertility. *Proceedings of New Zealand Society of Animal Production* 46:161-163

Putney, D. J., Drost, M. & Thacher, W. W., 1988. Embryonic development in superovulated dairy cattle exposed to elevated ambient temperatures between days 1 to 7 post insemination. *Theriogenology* 30:195-209

SAS Institute Inc., 2001. Cary, NC, USA.

Wise, M. E., Armstrong, D. V., Huber J. T., Hunter R. & Wiersma F., 1988. Hormonal alterations in lactating dairy cows in response to thermal stress. *J. Dairy Sci.* 21:2480-2485.

Wooton, D., 1993. Scanning of pregnant ewes. *Tidsskrift for Dansk Færelv* 58, 8-9