

THE LAMBING PERFORMANCE OF MERINO EWES FOLLOWING SYNCHRONISATION OF OVULATION WITH CLOPROSTENOL, A PROSTAGLANDIN ANALOGUE (ICI 80996)
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Synchronisation of ovulation could lead to increased efficiencies in sheep artificial insemination (AI) programmes, however a previous report indicated variable results from the use of Cloprostenol (PG), a prostaglandin analogue (ICI 80996) (Fairnie, Cumming and Martin, 1976).

In this experiment, conducted at Kojonup, W.A. in February 1976; mature Merino ewes were treated with two 125µg injections of PG and inseminated either at a fixed time (64h) or at the presumed second oestrus after completion of treatments i.e. 19-20 days later. Treatments commenced in the midluteal phase of the cycle as determined by harnessed vasectomised rams, and the time interval between injections was varied in the ewes inseminated at a fixed time viz. either 12,13,14 or 15 days apart (designated PG12, PG13 etc.). Untreated ewes detected in behavioural oestrus in the 24h prior to AI were used as controls. Udders of ewes were examined 21 days after lambing to AI was completed to determine which ewes had lambed.

TABLE 1: Lambing performance of ewes after treatment with Cloprostenol and insemination at the second oestrus, or at 64h after completion of treatment regardless of whether ewes were detected in behavioural oestrus ("raddled") or not. The length of time between treatments was varied as shown (e.g. PG12 = two injections of Cloprostenol 12 days apart).

Group	Ewes "raddled"		Ewes not "raddled"		Total	
	n	at AI Lambing	n	at AI Lambing	n	Lambing
Control	116	52%			116	52%
Second oestrus	95	56%			95	56%
Fixed time PG12	29	17%] *	13	8%	42	14%] *
PG13	28	46%] **	13	31%	41	41%] ***
PG14	30	57%	19	53%	49	55%
PG15	26	65%	16	38%	42	55%
	*p<0.05		**p<0.01		***p<0.001	

The fertility of PG12 group is much lower than in the other groups of ewes. Acceptable fertility resulted from the PG14 and PG15 groups and similar results were reported by Fairnie, Cumming and Martin (1976) using the same regime. Fairnie, Wales and Gherardi (1977) showed that very poor fertility resulted from ewes treated with two 125µg injections of PG spaced eight-days apart compared to a PG14 group. It seems therefore that the time interval between the two injections is critical and should not be reduced to less than 13 or 14 days, otherwise satisfactory fertility from fixed time AI cannot be assured. Such a limitation on the use of Cloprostenol markedly reduces the flexibility of its use in sheep AI programmes as currently practiced in W.A. (Martin and Fairnie, 1976).

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