

LAMBING RATES IN MERINO EWES ARE INCREASED BY SIMULTANEOUS
IMMUNIZATION AGAINST SEVERAL STEROIDS

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Improvements in ovulation rate and subsequent lambing performance have been obtained by immunizing ewes against androstenedione ("Fecundin") (Cox et al. 1985). Alternatively, immunization against a mixture of androgenic and oestrogenic steroids has resulted in better lambing percentages in the Merino due to reduced ova and embryo wastage (Wilson et al. 1986).

The response of fine wool, mature, Merino ewes to immunization against either single or several steroid immunogens was further evaluated in three field trials for one or two consecutive years at Armidale and Prospect, N.S.W. Ewes were allocated to an untreated control group (C), an androstenedione (A) immunized group, and a group immunized against A, testosterone (T) and oestrone (E). Two immunizations were given to the ewes 7 and 4 weeks before joining with 2% entire rams for 5 weeks. Ewes in the second year of treatment received a booster immunization 4 weeks before joining. Ovulations were recorded at endoscopy of ewes following oestrous marking or the end of joining. The number of lambs was determined at birth or from ultrasound scanning of ewes at 50-80 days gestation.

Table 1. Ovulation rates and lambing performances

Treatment	Number of ewes			Ovulations/ ewe joined			Lambs/ ewe joined			Extra lambs/ 100 ewes	
	C	A	ATE	C	A	ATE	C	A	ATE	A	ATE
Trial 1											
1st year	50	50	50	1.04	1.32**	1.38**	0.98	1.02	1.18†	4	20
2nd year	41	43	46	1.12	1.37*	1.26	1.00	1.16	1.20†	16	20
Trial 2											
1st year	88	178	179	-	-	-	0.92	1.03	1.09*	11	17
Trial 3											
1st year	49	70	73	1.02	1.20*	1.38**	0.88	0.91	1.12**	3	24
2nd year	48	64	73	1.29	1.47†	1.62**	1.10	1.16	1.34*	6	24

† $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, compared to C.

In all trials, both immunization procedures resulted in improved ovulation rates and lambing performance, with multiple steroids giving consistently better and less variable responses in lambs per 100 ewes than a single steroid. This improved gain in productivity from immunizing against both androgenic and oestrogenic steroids is due in part to an increased ovulation rate and in part to reduced ova and embryo wastage. This alternative procedure of multiple steroid immunization overcomes the variable response of Merinos to Fecundin. Its application to cross-bred ewes is being evaluated.

COX, R.I., WILSON, P.A. and WONG, M.S.F. (1985). In "Reviews in Rural Science 6", p. 150, editors R.A. Leng, J.S.F. Barker, D.B. Adams and K.J. Hutchinson. (Univ. New England: Armidale).

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