Effect of maternal ability of Corriedale and Corriedale Pro ewes on lamb growth

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Introduction

Maternal ability of ewes of two biotypes, Corriedale (C) and Corriedale PRO (C-PRO), and its effect on growth and development of their lambs were evaluated under grazing conditions in Uruguay. C-PRO is a prolific biotype composed of 25% Finnish Landrace (FL), 25% East Friesian (EF) and 50% C.

Conclusions

Ewe biotype only affected BW in favor of C-PRO ewes, but not any of the other weights, which suggests no differences in milk production between biotypes in spite of the EF component of C-PRO. Twins had lower BW than singles, which was maintained throughout weaning. The NLR affected initial weights (LW 1 and LW2); twins reared as singles had higher weights than when reared as twins, however, no differences were found in LW3 and WW.

Material and methods

- Animals: 205 ewes were mated with C-PRO rams (C-PRO ewes) or 50% FL and 50% FM rams (C ewes) resulting in C-PRO offspring.
- Pregnancy diagnosis: transabdominal ultrasound detection of pregnancy and number of fetuses.
- Grazing: the ewes were kept on native pasture and 45 days prior to parturition twin bearing ewes were moved to cultivated pasture for the rest of the experimental period.
- Lambs: weight was recoded at birth (BW) and on average at days 26, 49 and 62 after lambing had peaked (LW1, LW2 and LW3, respectively) and at weaning (day 110, WW).
- Statistical analysis: the GLM included the main effects of ewe biotype (C, C-PRO), ewe age (2, 3, more than 3 years), sex of lamb (male, female), number of fetuses gestated (NFG; one, two; ewes carrying triplets were not considered in the analysis), number of lambs reared (NLR; one, two) and their interactions (alpha = 0.05).

Table 1: Number of single and twin bearing ewes according to biotype and prolificacy

	C	C-PRO	Total
Single	18	34	52
Twin	39	41	80
Total	57	75	132
Prolificacy	1.68	1.55	1.61

Table 2: Live weight (kg/day) and daily weight gain (g/day) according to ewe biotype and fetal load

		Ewe biotype		Fetal load	
	n	C	C-PRO	Single	Twin
BW (Kg)	206	4,3 ± 0,86 **a**	4,5 ± 1,03 **b**	5,1 ± 0,98 **a**	4,2 ± 0,83 **b**
LW1 (Kg)	181	10,9 ± 2,65	11,2 ± 2,69	14,2 ± 2,17 **a**	10,2 ± 2,02 **b**
LW2 (Kg)	183	16,1 ± 3,49	16,6 ± 3,87	20,9 ± 3,03 **a**	14,9 ± 2,52 **b**
LW3 (Kg)	180	19,1 ± 4,35	19,6 ± 4,56	24,8 ± 3,85 **a**	17,6 ± 3,01 **b**
WW (Kg)	170	28,0± 5,66	28,0± 5,93	33,8 ± 4,55 **a**	25,7 ± 4,50 **b**
DWG (g/día)	146	272 ± 50,5	251 ±49,0	259 ± 35,2 **a**	195 ± 41,1 **b**

Results

- 205 lambs were born from 132 ewes (117 male and 88 female lambs).
- Birth weight was higher for lambs from C-PRO ewes, lambs gestated as singles, and the interaction ewe biotype*NFG (higher BW for lambs from C-PRO ewes gestated as singles).
- Significant effects on LW1, LW2 and LW3 were sex (higher weights for male lambs), interaction between number of fetuses gestated and lambs reared (NFG*NLR) and days of recording as covariable.
- Lambs gestated and reared as singles had the highest body weight, followed by lambs gestated as twins but reared as singles and last the lambs gestated and reared as twins.
- Ewe age affected LW2; lambs of ewes of two years of age weighed less than those of the older ewes.
- Sex, lamb age, NFG*NLR and biotype*NFG*NLR had significant effects on WW.

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