

Performance of autumn lambing ewes and lambs on irrigated and dryland winter pastures

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Introduction

Spring mating of ewe flocks is the traditional husbandry practice in East Griqualand. These flocks lamb during autumn, and are overwintered on pasture or greenfeed. The lambs remain on the green grazing from weaning until October when the herbage quality of the veld is again sufficient to support the nutritional requirements of these animals. Due to the cost of establishing annual pastures an investigation was launched to determine the most suitable irrigated and dryland pasture for autumn born lambs.

Materials and Methods

The trial was carried out at the Kokstad Research Station over a period of seven years using an autumn (April - May) lambing Merino flock. Single lambs and their dams were allocated to their respective pasture treatments. These sheep remained on the respective pastures until weaning in mid-July at 90 days. The irrigated and dryland pastures selected were those that are commonly used in this area. The low stocking rate (LSR) and high stocking rate (HSR) treatments for each pasture were chosen to be lower and higher respectively, than that generally recommended for this area. A 3.5 days-in and 24.5 days-out rotation was followed in the eight camp rotational grazing system. The strip grazing system involved opening ungrazed areas of pasture at weekly intervals. Under the continuous grazing system, the sheep were free to graze the entire grazing area at any one time. The pasture, the grazing system used, the stocking rate applied in terms of the number of dam lamb pairs grazed per hectare is given in Table 1.

Results and Discussion

The data in Table 1 indicate that from birth to weaning the LSR lambs on the irrigated pastures grazing the oat pastures produced the best ADG followed by the Midmar + oats, Midmar, Nui and fescue respectively. The trend for the HSR lambs were the same except that fescue was second last and the Nui last. On the dryland pastures the lambs grazing oats produced the best ADG followed by fescue while kikuyu was last. This applied to both stocking rates. At the high stocking rate providing a creep for the lambs increased lamb growth significantly on the fescue and kikuyu pastures.

These data (Table 2) indicate that from birth to weaning the ewes grazing the oat pastures gained the most weight followed by those on the Midmar + oats, Midmar, fescue and the Nui pasture respectively. This trend applied to both the low and high stocking rates. In the low stocking rate the ewes all gained weight while in the high stocking rate the ewes grazing the fescue and Nui pastures lost weight. In the case of dryland pastures, ewe performance was best on oats followed by fescue and kikuyu. The LSR ewes on the kikuyu lost weight as did the HSR ewes on fescue and kikuyu. Creep feeding the lambs did not improve the performance of the ewes on the dryland fescue and kikuyu.

Conclusion

These data indicate large differences in ewe and lamb performance in the different pastures tested. The choice of pasture species will depend upon individual circumstances e.g. water availability, cost of irrigation, etc.

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Table 1 Pastures tested, stocking rate (ewe + lamb pairs per ha), lamb numbers and ADG (g/day) of lambs from birth to weaning for ewes plus single lambs over all years of trial

Pasture	Stocking rate		Lamb ADG (g/d)					
	LSR	HSR	LSR	n	HSR	n	SED	P
IRRIGATED #								
Oats	16	20	252.8	33	245	47	7.5	n.s.
Midmar & Oats	20	28	233.3	55	231.8	26	9.86	n.s.
Midmar ryegrass	20	28	220.3	83	202	84	4.76	xx
Fescue	16	24	196.4	51	174.7	50	6.79	x
Nui	16	24	186.6	93	184.1	63	8.25	n.s.
DRYLAND								
Oats	7	14	250.2	52	238.4	52	6.92	n.s.
Fescue	7	14	197.3	51	174.6	47	8.93	x
Kikuyu	7	14	147.1	34	132.7	67	6.34	x
DRYLAND	Stocking rate		Creep	n	Control	n		
Fescue	14		223.8	23	185.5	21	11.06	xx
Kikuyu	14		211.2	45	157.7	29	8.51	xx

n.s. = non-significant; x = P < 0.05; xx = P < 0.01

= Grazing system for irrigated was eight camp rotation, strip grazing for dryland and continuous grazing for dryland + creep

Table 2 Pastures tested, grazing system, stocking rate (ewe + lamb pairs per ha), ewe weight change, lamb numbers and ADG (g/day) of lambs from birth to weaning for ewes plus single lambs over all years

Pasture	Stocking rate		Ewe weight change			
	LSR	HSR	LSR	HSR	SED	P
IRRIGATED#						
Oats	16	20	7.47	6.604	0.951	n.s.
Midmar & Oats	20	28	4.092	4.87	1.116	n.s.
Midmar ryegrass	20	28	2.644	2.324	0.762	n.s.
Fescue	16	24	0.793	-0.734	0.912	n.s.
Nui	16	24	0.74	-1.318	0.785	xx
DRYLAND						
Oats	7	14	9.841	6.547	0.741	xx
Fescue	7	14	2.435	-0.277	1.005	xx
Kikuyu	7	14	-2.184	-4.51	0.782	xx
DRYLAND	Stocking rate		Creep	Control		
Fescue	14		-0.874	1.397	1.418	n.s.
Kikuyu	14		-5.124	-5.248	1.777	n.s.

n.s. = non-significant; x = P < 0.05; xx = P < 0.01

= Grazing system for irrigated was eight camp rotation, strip grazing for dryland and continuous grazing for dryland + creep