

Providing twin-bearing ewes with extra energy at lambing produces heavier lambs at marking

Rob Davidson, WAMMCO International, Burswood, formerly University of Western Australia; **Keith Croker**, Department of Agriculture, South Perth; **Ken Hart**, Department of Agriculture, Narrogin and **Tim Wiese**, "Chuckem", Highbury.

ABSTRACT

Animal house studies have shown that providing twin-bearing ewes with a high energy supplement a week before lambing increases the production of colostrum. In this trial we compared the performances of two groups of twin-bearing ewes, and their lambs, offered a high energy supplement (850 g/h/d peri-partum pellets) or barley grain (1% of body weight) the week before and 3 weeks after lambing with twin-bearing ewes run under standard farm management (hay + 400 g/h/d oat grain). Two weeks post marking, the ewes on additional feed were heavier and in better condition than those offered standard nutrition. The survival rates of the twin born lambs were similar and lower than the survival rate of the single born lambs. At marking, the single born lambs and the supplemented twin born lambs were heavier than the twins on standard management. At weaning, the single lambs were heavier than the supplemented twins, which were heavier than the twins on standard management. The extra feed given to the twin-bearing ewes did not improve lamb survival. However, the supplemented ewes and their lambs benefited through improved live weights.

AIMS

Twin-bearing Merino ewes, and especially the maiden twin-bearing Merino ewes, have one of the highest lamb mortalities of any class of ewe. The inability of the Merino ewe to produce enough colostrum to satisfy the needs of twin lambs is thought to contribute to the high mortality rates. In studies done in animal houses it has been shown that the production of colostrum is increased in ewes given additional supplements of maize or barley one week before lambing (1, 2). In the trial reported here, we examined the response of lambs to feeding a high level of energy to twin-bearing ewes during late pregnancy and early lactation.

METHOD

Nine hundred and eighty five-year old ewes were treated with two injections of Ovastim® (Virbac Australia). The ewes were synchronised by using progesterone sponges (Chronogest 30). Merino sires (14%) were introduced to the ewes on 12 January and removed on the 12 February 2004. The ewes were scanned by real time ultra sound to determine the numbers of lambs *in utero*. Single and twin-bearing ewes were allocated to one of the following four treatment groups (Table 1).

Table 1. Numbers of ewes and diets given to single and twin-bearing Merino ewes.

Treatment	Number of ewes	Management
1	120 single-bearing	Standard management (400 g/h/d oats)
2	120 twin-bearing	Standard management (400 g/h/d oats)
3	120 twin-bearing	Standard management + 850 g/h/d PP pellet (Macco Feeds) for 1 week pre- and 3 weeks post-lambing (twin - pellet)
4	120 twin-bearing	Standard management + 1% of ewe's body weight of barley for 1 week pre- and 3 weeks post-lambing (twin - barley)

One week before the start of lambing, the ewes were allocated to their lambing paddocks. The single and twin-bearing ewes run under standard farm management lambled in the same paddock. All treatment paddocks were stocked at similar rates. The udders of the single and twin bearing ewes in the standard management treatment were covered with Oxide Cement Colour Additive (Diggers) and kept in the yards overnight to mother up with their lambs. The following morning, the lambs were allocated to treatment groups, ear tagged and weighed. The ewes and lambs were re-grouped into one mob at marking at about six weeks of age. The ewes were weighed, condition scored and examined to determine those that were lactating or had lost their lambs two weeks post-marking and only the lambs were weighed at weaning as the ewes had been sold.

RESULTS

The use of the Ovastim to generate twin-bearing ewes worked well, with similar percentages of single and twin-bearing ewes (46.6 and 37.2% of the ewes scanned, respectively). There were no differences in the average live weights of the pregnant ewes when allocated to treatment groups. However, two weeks post-marking, the twin (barley) and twin (pellet) treatments were heavier than the single and twin standard treatment and the twin (pellet) treatment was heavier than the twin (barley) treatment. The twin (pellet and barley) treatments were in better condition than the treatments run under standard management.

Table 2. The numbers of lambs marked, percentages of lambs surviving to marking and average live weights of lambs at marking and weaning (kg).

Treatment	Lambs at marking	Survival to marking [§]	Wt at marking	Wt at weaning
1	109	91 ^a	15.1 ^{ac}	28.5 ^a
2	171	71 ^b	11.8 ^b	25.0 ^b
3	190	79 ^b	14.6 ^a	26.4 ^c
4	178	74 ^b	15.5 ^c	26.9 ^c

[§] Percentage survival of lambs at marking – number of lambs marked/number of potential lambs (singles 120, twins 240).

^{abc} Means in the same column with different superscripts are different (P<0.05).

At marking, the live weights of the single, twin (pellet) and twin (barley) lambs were heavier than the twins (standard management, Table 2). The single-born progeny at weaning were heavier than the twin (pellet) and twin (barley) treatment progeny, which in turn were heavier than the twin standard.

CONCLUSIONS

The additional feed offered to the twin (pellet and barley) treatment groups failed to produce an increase in lamb survival. It did result in an increased live weight of the twins at marking, similar to that of single born progeny run under standard management. A greater response may have been possible because the producer estimated the twin (pellet and barley) ewes only consumed 50% of the supplement. It is possible that more of the supplement would have been consumed had it been protected from the weather (i.e. fed in a trough or self-feeder) and if there had been less winter green feed available.

KEY WORDS

Ewes, lambs, colostrum, lamb survival, energy supplement, growth

ACKNOWLEDGMENTS

Funds for the trial were provided by Meat and Livestock Australia, the Sheep Meat Research and Development Project, Department of Agriculture Western Australia, and the Animal Biology Group at The University of Western Australia.

Paper reviewed by: Dr Chris Oldham, Department of Agriculture Western Australia

REFERENCES

- (1) Banchemo, G.E.; Quintans, G.; Martin, G.B.; Lindsay, D.R. and Milton, J.T.B. 2004. *Reprod. Fert. Dev.* **16**, 633-43.
- (2) Chadwick, M.E. 2004. Colostrum of twin-bearing maiden ewes is improved by supplementation with cereal grains in the last week of pregnancy. BSc (Agric.) (Hons) University of Western Australia.