A COMPARISON OF TWO LAMBING MANAGEMENT SYSTEMS

J. R. GILES*

Summary

A drift lambing system combined with intensive husbandry was compared with unsupervised lambing in the three years from 1964 to 1966 at Trangie. The estimated mean lamb mortality from birth to weaning in the unsupervised group was 16.0% of singles and 27.9% of twins born compared to 9.5% and 14.5% in the drift group; 65.5% of the total difference in lamb losses was before marking and 34.5% after.

I. INTRODUCTION

The studies of Alexander, Peterson and Watson (1959) and Alexander and Peterson (1961) demonstrated that most lambs that survive birth can survive to three days of age if given sufficient attention. However, with the exception of the reports of Beggs and Campion (1966) and Moore, McDonald and Messenger (1966), there is little published information on the extent to which close supervision of lambing can reduce lamb mortality under field conditions.

One method of supervising lambing (‘drift’ lambing) was described by Dun (1966). Ewes are lambed in a series of small paddocks, and each day, or sometimes more often, the ewes without lambs are separated (‘drifted off’) from those which have just lambed. Ewes with lambs remain behind in small groups while the unlambed ewes are moved to the next paddock. This paper presents the results from three years of a comparison of an intensive drift lambing system with unsupervised lambing in a large paddock.

II. MATERIALS AND METHODS

The flock of 400 Peppin Merinos used in the comparison has been selected for several generations for an increased number of lambs weaned per ewe lifetime and all ewes failing to rear a lamb in any year are culled. In March of 1964, 1965 and 1966, the ewes were joined with rams for five weeks. After ewes returning to service had been identified by vasectomized rams and removed, the remaining ewes were assigned at random to two groups of similar size. Before lambing, each ewe was branded on both sides and received two injections against clostridial infections.

One group lambed in a series of ten individually watered 6.5 ha (16 ac) paddocks. At the start of lambing, all ewes were in one paddock but ewes without lambs were drifted off daily, and occasionally twice daily. This procedure resulted in a maximum number of about 15 ewes with lambs in any one paddock. Lambing ewes were inspected frequently during the day, assistance was given to any ewe in difficulty, and mismothered lambs were confined in small pens with their dams. All lambs were identified with their dams and were weighed and ear-tagged soon after birth. At one week of age lambs were marked (tails docked and males

*Department of Agriculture, Agricultural Research Station, Trangie, N.S.W.
castrated) and mulesed (Belschner 1965) in the paddocks in which they were born; during these operations, lambs were rarely separated from their dams for more than 30 minutes. Within two days after marking, the lambs and their dams were removed from the drift paddocks. Lamb carcasses were collected from the drift paddocks and examined using the technique of McFarlane (1955).

Ewes in the other group lambed in a 162 ha (400 ac) paddock without supervision. This group was yarded three weeks and six weeks after lambing commenced to permit identification of the lambs by mothering (Dun 1964), and for marking and mulesing. A record was made of any ewes which had lambed but would not accept a lamb during the mothering. Ewes and lambs from the two management systems were -grazed together from about three weeks after the completion of lambing, and all lambs were weaned six weeks later.

The close supervision of the drift lambing group allowed the losses of single and twin lambs to be readily calculated.

Total lamb mortality in the unsupervised group was estimated on the assumption that an equal number of lambs were born per lambing ewe in each system. To estimate the numbers of single and twin lambs dying before marking, it was necessary to calculate the number of twin lambs which were mothered as singles because of the death of one lamb of a pair. These estimates were derived by assuming that an equal proportion of twin bearing ewes in both systems reared no lambs to marking. To estimate the numbers of single and twin lambs which died between marking and weaning, dead lambs which had been mothered as singles were allocated to the single or twin groups in proportion to the estimated numbers of singles mothered and twin lambs mothered as singles. The small number of triplet and quadruplet births (nine sets) were omitted from the calculations. All lamb loss data were examined by chi-square analysis.

III. RESULTS

Losses of single and twin lambs under the two management systems are summarized in Table 1. Total losses from birth to weaning were significantly lower in the drifted flock in all years. Drift lambing gave significant reductions in losses

<table>
<thead>
<tr>
<th>Management system</th>
<th>Single lambs (38% of lambs born)</th>
<th>Twin lambs (62% of lambs born)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Before marking</td>
<td>After marking</td>
</tr>
<tr>
<td>Drift lambing</td>
<td>5.68</td>
<td>3.79</td>
</tr>
<tr>
<td>Unsupervised lambing</td>
<td>8.02</td>
<td>8.02</td>
</tr>
<tr>
<td>Percent advantage of drift lambing U-D (—— x 100) U</td>
<td>29.18</td>
<td>52.74</td>
</tr>
</tbody>
</table>
from birth to marking in 1964 and in the pooled data for 1964-66, and from marking to weaning in 1965, 1966, and the pooled data for the three years.

Drift lambing increased the survival rate to weaning from 84 to 91% of single lambs and 78 to 86% of twins. Most of the difference between the two systems (66%) was due to a reduction in pre-marking losses under drift lambing and 82% of this reduction was due to a lower death rate of twins.

Table 2 shows the relationship between type of birth and time of death of single and twin lambs dying before marking in the drift. A total of 8.3% of single and 3.6% of twin births were classified as dystokias and of the 4.6% of single and 2.1% of twin births which were assisted, 75% of single and 100% of twin lambs survived birth. With few exceptions, post-parturient deaths were due to starvation and carcasses often showed evidence of predation.

IV. DISCUSSION

The drift lambing system combined with early marking of small groups of lambs reduced the deaths of both single and twin lambs between birth and weaning. Premarking losses in the drift were attributable to two principal causes: difficult births which were recorded in 8.3% of all single births and accounted for 65% of the deaths of single lambs, and mis-mothering and starvation which caused about 80% of the deaths of twin lambs before marking. Since 82% of the difference between systems in losses before marking was due to a higher survival rate of twins, it is likely that the principal advantage of the drift system was a reduction in mis-mothering. This was probably due to small paddock size, the removal of ewes yet to lamb and the small number of ewes and lambs in each paddock.

The causes of the difference between systems in lamb deaths after marking have not been established, but it is probable that an important factor was the marking procedure used in the unsupervised group. This procedure, together with the mustering of very young lambs, probably caused some mis-mothering which may have contributed to the high level of lamb deaths in this group.

A drift lambing system, combined with early marking, has proved to be a practicable method of reducing lamb mortality at Trangie. Part of the 13.2% mortality in the drift system may well be due to the disturbance of ewes when tagging and weighing lambs shortly after birth.

V. ACKNOWLEDGMENTS

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VI. REFERENCES