INADEQUATE MATERNAL CARE: A FACTOR CONTRIBUTING TO THE DIFFERENTIAL MORTALITY OF SINGLES AND TWINS IN FINE-WOOLLED MERINO SHEEP

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In Australia the average death rate of lambs during the first day or two of life is approximately 20% (Squires 1975) and the rate in twins is usually about 1.5 to 3 times that in singles (e.g. Watson & Elder 1961).

A recent study has examined the role of maternal care in this differential mortality amongst a flock of multiparous fine-woolled Merino ewes lambing in four 12 ha paddocks during fine winter weather at Armidale, N.S.W. During daylight the ewes' behaviour and position in relation to their lambs were recorded with minimal disturbance, by observers moving through the paddocks or stationed in a 30 m tower.

Fifty-eight ewes gave birth to twins during daylight and 45 others were each caring for two new lambs at dawn. Fifty-one per cent (53/103) of these mothers left one lamb behind (Table 1), mostly on the day of birth and mostly when the ewe moved from the birth site; the ewes appeared satisfied if accompanied by one lamb. By contrast, only 3% of single lambs were abandoned. At most, 28% (15/53) of twin abandonments could be attributed to human interference at tagging of lambs; abandonments of twins also occurred in the absence of observers as indicated by presence of 14 abandoned lambs at dawn (24% of assumed twin births at night).

The abandonment of twin lambs was a major contribution to the high twin mortality in this flock (37.4% versus 9.6% for singles). Difference in maternal care of twins could explain why the curve relating birth weight to mortality of twins is above that for singles in some flocks but not in others; breed or strain comparisons are required to clarify this.

<table>
<thead>
<tr>
<th>Ewe abandoned lamb at birth</th>
<th>Birth to tagging</th>
<th>&lt;1 h after tagging</th>
<th>&gt;1 h after tagging</th>
<th>Stage unknown</th>
<th>(Lamb &quot;stolen by another ewe or wandered away&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>At birth</td>
<td>7</td>
<td>15</td>
<td>15</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Other causes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>58</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

TABLE 1  Nos. of ewes that became separated from a twin (out of 58 observed lambing plus 45 with new twins at dawn)

28% (15/53) of twin abandonments could be attributed to human interference at tagging of lambs; abandonments of twins also occurred in the absence of observers as indicated by presence of 14 abandoned lambs at dawn (24% of assumed twin births at night).


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