SEMEN EVALUATION OF AUSTRALIAN MERINO RAMS IN MEXICO

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In 1981, 150 Merino rams were imported from Australia to effect genetic improvement of Mexican wool-producing flocks. Ninety rams were used for artificial insemination (AI) and the following observations made, over three years, of semen quality and lambing rate (LR).

Seasonal variation in semen. Characteristics of 534 first ejaculates (45 rams) were: volume 1.2±0.37 ml; prog. mot. (PM) 72±0.5%; sperm concentration 4598±1615 x 10⁶/ml. Semen quality was better in autumn/winter (P < 0.001) and in the last year.

Effect on AI of thawing temperature. Forty ejaculates in 0.5 ml straws were thawed at 75°C for 8 sec., 35°C for 30 sec., or 4°C for 3 minutes. Respectively, results were: PM34.5%, acrosomal integrity (AcI) 51.4%; PM30.7%, AcI 48.2%; PM19.5%, AcI 28.0%. The third treatment was significantly different (p < 0.001) and significant ram effects existed (p < 0.008).

Fresh v refrigerated semen. Ewes (n=266) were inseminated with either 200, 400 or 600 x 10⁶ sperm. Lambing rates were 42, 41 and 57% respectively with fresh semen and 27.5, 37 and 50% respectively with refrigerated semen.

EFFECT OF NaOH TREATMENT OF WHEAT STRAW ON MINERAL BALANCE IN SHEEP

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The feeding of NaOH-treated straws results in high sodium intakes which may interfere with absorption of other minerals. This was studied in the present experiment. Five wethers were fed NaOH-treated wheat straw (30 g Na/kg, 26 g urea/kg plus essential minerals), four were fed lucerne chaff (approximately 1 g Na/kg). Sheep were fed ad libitum at three-hourly intervals. Potassium, calcium, magnesium, nitrogen and sulphur intakes and retentions were measured.

Table 1 Intake and retention of K, Ca, Mg, N and S

<table>
<thead>
<tr>
<th>Intake g/d</th>
<th>Retention g/d</th>
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<tbody>
<tr>
<td></td>
<td>Lucerne</td>
</tr>
<tr>
<td>Potassium</td>
<td>15.21</td>
</tr>
<tr>
<td>Calcium</td>
<td>10.99</td>
</tr>
<tr>
<td>Magnesium</td>
<td>5.27</td>
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<tr>
<td>Nitrogen</td>
<td>26.0</td>
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<tr>
<td>Sulphur</td>
<td>2.63</td>
</tr>
</tbody>
</table>

Sheep fed NaOH-treated wheat straw had negative retention of potassium and magnesium and lower retention of nitrogen and sulphur than sheep fed lucerne (P < 0.01).

These results suggest that sheep fed alkali-treated forages may require additional potassium and magnesium in the diet.

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