Flock testing: weighing, sampling and measurement procedures for fleece measurement

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Weighing, sampling and measurement

An outline of shearing-shed procedure for the collection of greasy fleece weight records and sampling of the fleece for detailed measurement by the Department of Agriculture Flock Testing Service for Merino stud breeders.

By H. G. NEIL, B.Sc. (Agric.), Officer-in-Charge, Sheep and Wool Branch and R. J. LIGHTFOOT, B.Sc. (Agric.), Adviser

AN article in this issue explains why it is important in Merino stud breeding to base selection on fleece measurement.

Stud breeders who use fleece measurement in their selection programmes are especially catered for by the Department of Agriculture’s Flock Testing Service, which provides them with information on which to base the selection of rams for production characteristics.

This article explains how the service operates.

Rams carrying fleeces of four or more months’ growth are suitable for fleece measurement.

They can be compared on production records only if they are the same age and have been run under the same conditions. If two different age groups of rams are to be tested they should be put through the shearing shed as separate groups so that any confusion is avoided. The samples should then be despatched in separate lots so that individual flock testing reports can be prepared.

Shed Procedure:

1. Special cards obtained from the Department of Agriculture should be prepared before shearing to show the owner’s name, date of shearing and the age and months of wool growth for each group of rams.

2. All rams to be measured should be raddled on the mid-side before shearing. (The mid-side is the point on the third last rib half way between the mid-line of the back and the mid-line of the belly. Wool from this point is most typical of the whole fleece.) This is particularly important where rams are being shorn with less than full wool.
Procedures for fleece measurement

3. The ear tag, or horn number is recorded on the special card while the ram is being shorn. The tag is easily read while the shearer removes the belly.

4. The card is then placed on top of the ram's belly, away from the shearer. This is to avoid confusion when more than one ram is being shorn at the same time.

5. The fleece is picked up, with the belly on top, and is taken to the scales.

6. The fleece, together with the belly, is weighed on special fleece weighing scales which weigh up to 30 lb. in tenths of a pound. These scales are available from all stock agents. This weight is recorded on the card.

The card is left on the ram's belly

Recording the ram's tag or horn number

Picking up the fleece with the belly on top
Below is an example of the cards provided.

After the fleece is weighed and the weight recorded, all the appropriate details (as shown in this example) should have been completed.

7. After the fleece is thrown, a wool sample of about half a pound is taken from the mid-side area which is clearly indicated by the raddle put on before shearing. This raddled area is also easily identified in prem. shorn wools which can be placed on bags laid over the wool-rolling table.

The half pound sample is then placed in a plastic bag, together with the card (face side out) and the bag sealed with a rubber band.

8. DESPATCH: The fleece samples are then sent to:—The Sheep and Wool Branch, Department of Agriculture, Jarrah Road, South Perth.

A covering letter should also be forwarded to the same address advising when the completed measurements will be required.

Laboratory Procedure:

When samples are received in the Flock Testing Laboratory, they are arranged in order and each ram's number, together with its greasy fleece weight, is recorded on a master sheet.

The individual samples are then examined in detail. At this stage the staple length is measured, the count (quality number) recorded and assessment of style made.

An accurate 100 gram sample is then weighed out.

DEPARTMENT OF AGRICULTURE FLOCK
TESTING SERVICE

<table>
<thead>
<tr>
<th>EAR TAG OR HORN No.</th>
<th>163</th>
</tr>
</thead>
<tbody>
<tr>
<td>GREASY WOOL WEIGHT</td>
<td>6.7 lb.</td>
</tr>
<tr>
<td>(INC. BELLY) (to 1/10th lb.)</td>
<td></td>
</tr>
<tr>
<td>MONTHS GROWTH</td>
<td>5</td>
</tr>
<tr>
<td>AGE</td>
<td>16 months</td>
</tr>
<tr>
<td>OWNER</td>
<td>J. L. Smith</td>
</tr>
<tr>
<td>DATE</td>
<td>18/8/64</td>
</tr>
</tbody>
</table>

(½ lb. mid-side sample required)

Example of a completed card. A card should be filled in and sent in with each wool sample to the Department of Agriculture
This sample is scoured, spin dried, oven dried and finally tested for moisture regain to ensure that it is completely dry before the clean scoured weight of the sample is measured.

From the clean scoured weight of the sample the yield of the wool is calculated and this in turn gives the amount of clean wool produced by each ram.

The flock testing report is then prepared with all rams listed in declining order of their clean wool production.

The Flock Testing Report

An example of a completed flock testing report similar to that which is returned to the stud breeder is shown on page 330. Such a record is invaluable in the final selection of rams.

Below is an explanation of terms used in the flock testing report.

1. **GREASY WOOL WEIGHT (G.W.W.)**—is the weight of the unskirted greasy fleece wool including belly, but not locks.

2. **CLEAN WOOL WEIGHT (C.W.W)**—is the weight of clean wool shorn from each sheep, after grease and other foreign matter has been removed. It is calculated as the product of greasy wool weight multiplied by percentage yield.

Example: 10 lb. greasy wool, 50 per cent.
yield
gives: \[
\frac{10 \times 50}{100} = 5 \text{ lb. clean wool}
\]

= 5 lb. C.W.W.
3. **CLEAN WOOL WEIGHT ORDER**—indicates the merit or place of the sheep’s C.W.W. when compared with the other sheep in the group.

4. **ABOVE/BELOW AV. C.W.W.**—indicates the amount of clean wool the sheep cuts when compared with the average of the group.

   Example: A ram’s clean wool weight was 1.8 lb. above average. This is shown as +1.8 lb. on the report. Similarly below average is shown as a negative number—1.8 lb.

5. **QUALITY NUMBERS (Q.N.)**—are allocated on the basis of Australian wool trade standards as follows:—

   58’s; 60’s; 64’s; 66’s; 70’s, etc.

6. **STAPLE LENGTH (S.L. in.)**—measured as the length from the base to the end of the tip of the staple. Measurements to the nearest tenth of an inch.

7. **REMARKS ON WOOL**—both good and poor quality wool is mentioned, that of “about average” is not usually listed. A charge of 5s. a sample is made for the measurement service.

For further information on shearing shed and laboratory procedures, breeders should contact the Sheep and Wool Branch, Department of Agriculture, Jarrah Road, South Perth.

### FLOCK TESTING REPORT

**15 Rams—Age, 15 months; Wool Growth, 11 months**

<table>
<thead>
<tr>
<th>Ram No.</th>
<th>Greasy Wool Weight</th>
<th>Clean Wool Weight</th>
<th>Clean Wool Weight Order</th>
<th>Above or Below Average Clean Wool Weight</th>
<th>Quality No.</th>
<th>Staple Length</th>
<th>Remarks on Wool Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>16.3</td>
<td>11.65</td>
<td>1</td>
<td>+ 1.90</td>
<td>Sup. 60</td>
<td>4.5</td>
<td>Very Good.</td>
</tr>
<tr>
<td>29</td>
<td>14.8</td>
<td>10.83</td>
<td>2</td>
<td>+ 1.08</td>
<td>58</td>
<td>4.3</td>
<td>Very Good.</td>
</tr>
<tr>
<td>10</td>
<td>15.1</td>
<td>10.67</td>
<td>3</td>
<td>+ 0.92</td>
<td>Sup. 60</td>
<td>4.1</td>
<td>Very Good.</td>
</tr>
<tr>
<td>62</td>
<td>16.8</td>
<td>10.53</td>
<td>4</td>
<td>+ 0.78</td>
<td>64</td>
<td>3.2</td>
<td>Very Good.</td>
</tr>
<tr>
<td>17</td>
<td>16.5</td>
<td>10.20</td>
<td>5</td>
<td>+ 0.45</td>
<td>Sup. 60</td>
<td>3.9</td>
<td>Good.</td>
</tr>
<tr>
<td>31</td>
<td>15.5</td>
<td>10.11</td>
<td>6</td>
<td>+ 0.36</td>
<td>Sup. 60</td>
<td>4.0</td>
<td>Good.</td>
</tr>
<tr>
<td>28</td>
<td>15.4</td>
<td>9.69</td>
<td>7</td>
<td>- 0.06</td>
<td>60</td>
<td>3.8</td>
<td>Lacks character—harsh.</td>
</tr>
<tr>
<td>59</td>
<td>14.2</td>
<td>9.55</td>
<td>8</td>
<td>- 0.20</td>
<td>60</td>
<td>3.9</td>
<td>Good.</td>
</tr>
<tr>
<td>46</td>
<td>15.8</td>
<td>9.41</td>
<td>9</td>
<td>- 0.34</td>
<td>Sup. 60</td>
<td>4.0</td>
<td>Good.</td>
</tr>
<tr>
<td>7</td>
<td>15.6</td>
<td>9.38</td>
<td>10</td>
<td>- 0.37</td>
<td>Sup. 60</td>
<td>4.3</td>
<td>Very Good.</td>
</tr>
<tr>
<td>8</td>
<td>14.4</td>
<td>9.35</td>
<td>11</td>
<td>- 0.40</td>
<td>60</td>
<td>4.0</td>
<td>Poor Style.</td>
</tr>
<tr>
<td>20</td>
<td>13.6</td>
<td>9.10</td>
<td>12</td>
<td>- 0.65</td>
<td>60</td>
<td>4.4</td>
<td>Very Good.</td>
</tr>
<tr>
<td>33</td>
<td>12.8</td>
<td>8.79</td>
<td>13</td>
<td>- 0.96</td>
<td>Sup. 60</td>
<td>3.7</td>
<td>Very Good.</td>
</tr>
<tr>
<td>14</td>
<td>12.6</td>
<td>8.51</td>
<td>14</td>
<td>- 1.24</td>
<td>60</td>
<td>4.5</td>
<td>Good.</td>
</tr>
<tr>
<td>48</td>
<td>13.2</td>
<td>8.50</td>
<td>15</td>
<td>- 1.25</td>
<td>64</td>
<td>3.7</td>
<td>Very Good.</td>
</tr>
</tbody>
</table>

Average ... 14.8  9.75 ... ... ... ...
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