Pathway specifications for Meat Standards Australia
Lamb and Sheepmeats

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ABSTRACT

This paper describes the commercialisation route for the Meat Standards Australia quality trade mark to underpin lamb and sheepmeat products. The research to underpin a quality claim found that a supply chain approach was required such that on farm, abattoir and wholesale/retail components of the chain all needed to play a role.

INTRODUCTION

The R&D associated with Meat & Livestock Australia’s lamb and sheepmeat eating quality program has now been published in a special edition of the Australian Journal of Experimental Agriculture (Pethick et al. 2005a). Following the research the Sheepmeats Industry, through its peak body Sheep Meats Council Australia, decided that a national quality mark for lamb and other sheepmeat products would be commercialised through Meat Standards Australia (MSA). Meat Standards Australia is a business unit of Meat & Livestock Australia that has developed a world renowned grading scheme to underpin beef quality (Thompson 2002, Pethick et al. 2005b). The lamb and sheepmeat research (Pethick et al. 2005a) has lead to the following supply chain pathways to secure lamb and sheepmeat eating quality.

PATHWAYS TO UNDERPIN QUALITY

NB – pathways refer to lamb, yearling or mutton unless otherwise stated.

On farm requirements

(i) Minimum 2 weeks off shears (wool length ≥ 5mm)
(ii) GR tissue depth ≥ 6mm, HCW ≥ 18kg
(iii) Total time off feed not greater than 48 hours (on farm curfew, transport plus lairage)
(iv) Minimum of 2 weeks at consignment property before dispatch
(v) Recommended minimum growth rate pre-slaughter of 100gm/day for X-bred and 150gm/day for Merino lambs and sheep.

Selling techniques

(i) Direct consignment preferred option
(ii) Xbred lambs (defined as less than or equal to 50% Merino) accepted through saleyards but total time off feed restrictions still apply
(iii) Merino’s not accepted through sale yards

Processing

(i) Lairage – greater than 4 hours (lamb) and less than 24 hours, access to water
(ii) Dentition, weight and fat classes

<table>
<thead>
<tr>
<th>Class</th>
<th>Dentition</th>
<th>HCW</th>
<th>GR tissue depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lamb</td>
<td>Milk</td>
<td>≥ 18</td>
<td>≥ 6mm</td>
</tr>
<tr>
<td>Yearling</td>
<td>1-4</td>
<td>≥ 18</td>
<td>≥ 6mm</td>
</tr>
<tr>
<td>Mutton</td>
<td>&gt;4</td>
<td>≥ 18</td>
<td>≥ 6mm</td>
</tr>
</tbody>
</table>
(iii) Breed requirements, selling method and pH testing requirements

<table>
<thead>
<tr>
<th>Breed</th>
<th>Selling method</th>
<th>Testing pH/temp window</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xbred lambs and older</td>
<td>Direct &amp; Sale Yards</td>
<td>4 weekly</td>
</tr>
<tr>
<td>Xbred animals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merino - lambs, yearling and mutton</td>
<td>Direct consignment &amp; supplychain focus on finish requirements</td>
<td>4 weekly</td>
</tr>
</tbody>
</table>

(iv) pH/temperature window, hang options and aging options

<table>
<thead>
<tr>
<th>Hang</th>
<th>Temperature @ pH6</th>
<th>Minimum aging before sale to final consumer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achilles tendon</td>
<td>18-25°C&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5 days</td>
</tr>
<tr>
<td>Achilles tendon</td>
<td>&lt;18°C&lt;sup&gt;b&lt;/sup&gt;</td>
<td>10 days</td>
</tr>
<tr>
<td>Tender stretch</td>
<td>8-35°C</td>
<td>5 days</td>
</tr>
</tbody>
</table>

<sup>a</sup> best and most reliably achieved with electrical stimulation

<sup>b</sup> likely scenario if not using electrical stimulation

(v) Stunning – electrical, head only

CUTS

**Lamb** – Denuded rack and loin cuts, denuded rump, round and outside as grill or roast.

**Yearling** – Denuded rack and loin cuts, denuded rump, round and outside as grill or roast.

**Mutton** – denuded rack (spinalis on/off) and denuded loin cuts as grill or roast

**OTHER COMMENTS**

The above pathways can secure the quality of lamb to a worst case failure rate of 10% (roasted topside) with loin cuts having only a 3% chance of failing. The yearling and mutton worst case scenario for the currently approved cuts is a 15% failure rate. Further cut x cook options will be available in late 2005 when consumer testing on some 35 commercial cuts has been finalised.

There are some additional recommendations such as do not feed very high cereal grain diets for prolonged periods pre-slaughter. There are also recommendations for Australian Sheep Breeding values to help supplychains maximise eating quality as well as growth and muscle potential of slaughter lambs. Further research is being undertaken to access the significance of dehydration on the eating quality of lamb and sheepmeats.
REFERENCES
