Understanding Carcase and Eating Quality Traits

Sheep Genetics report ASBVs for a number of carcase traits, including eating quality traits that can be estimated through using genomic information (DNA samples). As eating quality becomes increasingly important to consumers, it is important that we balance both carcase traits and eating quality traits in our breeding programs.

<table>
<thead>
<tr>
<th>Trait</th>
<th>Dress %</th>
<th>LMY %</th>
<th>IMF %</th>
<th>SF5 kg</th>
<th>EMD mm</th>
<th>FAT mm</th>
<th>CCFAT mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASBV</td>
<td>2.0</td>
<td>2.4</td>
<td>-0.1</td>
<td>-0.5</td>
<td>2.2</td>
<td>-1.0</td>
<td>-1.2</td>
</tr>
<tr>
<td>Acc</td>
<td>52</td>
<td>62</td>
<td>50</td>
<td>45</td>
<td>70</td>
<td>68</td>
<td>57</td>
</tr>
</tbody>
</table>

**Dressing Percentage**
Rams with more positive dressing percentage (DRESS) ASBVs produce lambs that have a higher dressing percentage at slaughter. A ram with an ASBV of 2.0 will produce progeny that dress out 1.0 percent higher than progeny of a ram with an ASBV of 0.

**Intramuscular Fat**
Intramuscular fat (IMF) is a measure of the chemical fat percentage in the loin muscle of a lamb and is often referred to as marbling. IMF has been shown to have a significant impact on the flavour, juiciness, tenderness and overall likeability of lamb. Rams with more positive Intramuscular Fat (IMF) ASBVs produce progeny with higher levels of intramuscular fat.

**Eye Muscle Depth**
Eye Muscle Depth (EMD) ASBVs estimate the genetic difference between animals in eye muscle depth at the C site. Rams with more positive ASBVs for EMD will produce progeny that have more muscle, independent of weight, and a higher lean meat yield. EMD is reported as Weaning (WEMD), Post Weaning (PEMD), Yearling (YEMD) and Hogget (HEMD) ages.

**Fat Depth - C Site**
Carcase C site fat (CCFAT) ASBVs estimate the genetic difference between animals in fat depth at the C site, as measured on the carcase. ASBVs for CCFAT are calculated through genomic information. A ram with an ASBV of -1.2 will produce progeny 0.6 mm leaner than progeny of a ram with an ASBV of 0.

**Lean Meat Yield**
Rams with more positive Lean Meat Yield (LMY) ASBVs produce lambs that have a higher Lean Meat Yield percentage at slaughter. Lean meat yield is expressed as a percentage of the initial Hot Standard Carcase Weight. All bone and salvage fat is removed. A ram with an ASBV of 2.4 will produce progeny that are 1.2 percent higher than progeny of a ram with an ASBV of 0.

**Shear Force (5 days)**
Shear force is a measure of the force or energy required to cut through the loin muscle of lamb after 5 days of ageing, the ASBV is reported in deviations of kilograms of force. Rams with more negative SF5 ASBVs produce lambs with more tender meat.

**Fat Depth - GR Site**
Rams with more negative FAT ASBVs produce progeny that are leaner. FAT ASBVs estimate the genetic difference between animals in GR fat depth. FAT is reported as Post Weaning (PFAT), Yearling (YFAT), Hogget (HFAT) ages and Carcase (CFAT).