### Understanding Dohne ASBVs

#### Dohne (365 Day) Australian Sheep Breeding Values (ASBVs)

<table>
<thead>
<tr>
<th>Trait</th>
<th>NLW (%)</th>
<th>mwWT (kg)</th>
<th>wWT (kg)</th>
<th>pWT (kg)</th>
<th>γWT (kg)</th>
<th>γEMD (mm)</th>
<th>γFat (mm)</th>
<th>γCFW (%)</th>
<th>γFD (µm)</th>
<th>γFDCV (%)</th>
<th>Dohne Index Value</th>
<th>Dohne Final Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASBV</td>
<td>4.0</td>
<td>0.5</td>
<td>3.7</td>
<td>3.8</td>
<td>4.4</td>
<td>0.8</td>
<td>-0.5</td>
<td>2.6</td>
<td>-2.4</td>
<td>-1.2</td>
<td>141.5</td>
<td>R</td>
</tr>
</tbody>
</table>

Rams with a positive ASBV for **bodyweight** (WT) will produce lambs that grow faster and reach their target weights sooner. This ram will generally breed progeny that are genetically 2.2kg heavier than those of a ram with a γWT ASBV of 0.0 (zero).

Rams with a lower **fat depth** (Fat) ASBV will produce lambs that are leaner at the same weight. This ram’s negative ASBV means that his progeny are leaner than those sired by a ram with a positive Fat ASBV.

Rams with a lower **fibre diameter** (FD) ASBVs are finer. This ram with an ASBV of -2.4 will breed progeny that are genetically -1.2 microns finer than those of a ram with a FD ASBV of 0.0.

Rams with a lower **fibre diameter coefficient of variation** (CV) will produce progeny that have less variation in FD in their fleece. This ram with an ASBV of -1.2 will generally breed progeny that are genetically -0.6% lower CV than those of a ram with a CV ASBV of 00 (zero). A lower CV% is associated with higher staple strength.

Rams with a more positive number of lambs weaned (NLW) ASBV will sire daughters that wean a higher percentage of lambs. This ram will sire daughters who, on average, will wean 2% more lambs than a ram with a NLW ASBV of 0.0 (zero).

Rams with a higher ASBV for **eye muscle depth** (EMD) will produce lambs that have a higher lean meat yield. This ram will breed progeny that genetically have a 0.4 mm deeper eye muscle area than a ram with an EMD ASBV of 0.0 (zero).

Rams with a higher ASBV for **clean fleece weight** (CFW) will produce progeny that cut more wool. This ram will generally breed progeny that genetically cut 1.3% more wool than progeny of a ram with a CFW ASBV of 0.0 (zero).

Rams with a lower ASBV for **maternal weaning weight** (MW) will produce lambs that grow faster and reach their target weights sooner. This ram will generally breed progeny that are genetically 2.2kg heavier than those of a ram with a γWT ASBV of 0.0 (zero).

Rams with a lower ASBV for **maternal weaning weight** (MWWT) will breed daughters which will wean heavier lambs. This ASBV reflects a combination of the daughter’s ability to milk and provide a better maternal environment.

Rams with a more positive number of lambs weaned (NLW) ASBV will sire daughters that wean a higher percentage of lambs. This ram will sire daughters who, on average, will wean 2% more lambs than a ram with a NLW ASBV of 0.0 (zero).

Rams with a higher ASBV for **eye muscle depth** (EMD) will produce lambs that have a higher lean meat yield. This ram will breed progeny that genetically have a 0.4 mm deeper eye muscle area than a ram with an EMD ASBV of 0.0 (zero).

Rams with a higher ASBV for **clean fleece weight** (CFW) will produce progeny that cut more wool. This ram will generally breed progeny that genetically cut 1.3% more wool than progeny of a ram with a CFW ASBV of 0.0 (zero).

Rams with a lower ASBV for **fibre diameter coefficient of variation** (CV) will produce progeny that have less variation in FD in their fleece. This ram with an ASBV of -1.2 will generally breed progeny that are genetically -0.6% lower CV than those of a ram with a CV ASBV of 00 (zero). A lower CV% is associated with higher staple strength.

**Dohne index value** is a summary of the sheep’s performance for measured traits. A ram with a higher index value will breed progeny that are more suited to the Dohne Objective. For more detail see the reverse side if this sheet or “The Dohne Index” sheet.

**Final Grade** is a summary of the Dohne standard for visually assessed wool quality and conformation traits. R (Registered) grade is a suitable standard for a good quality commercial flock ram. (as graded by an independent Dohne approved Classer. C (Cull) grade is not suitable for sale. An R grade must also be pedigree recorded and evaluated for measured traits - if not the grade is UR (Unregistered).

**Note:** Where there is no ASBV reported the accuracy of the ASBV is too low for the trait to be effectively reported - normally due to a lack of performance information.

### As a commercial breeder how can I relate a ram’s ASBV to my flock’s performance?

1. Ask a local Dohne breeder how a Dohne flock will perform on your property.
2. Relative to this flock performance define your breeding objective for each trait, e.g. reduce FD.
3. Select rams for this breeding objective, e.g., rams with an ASBV finer than average for the Australian Dohne drop average (the 50% Percentile Band – for FD this currently -0.4).

Percentile Band Table – see over page – the current drop’s performance benchmarks.

For more information contact: Dohne Database, Forest Road Orange NSW 2800, Email: dohne.data@dpi.nsw.gov.au, Ph: 02 6391 3901, Fax: 02 6391 3922
**Dohne Australian Sheep Breeding Values (ASBVs)**

**Australian Sheep Breeding Values**

Australian Sheep Breeding Values (ASBVs) describe the expected performance of the progeny of a sheep, not just the performance of the sheep itself. An ASBV therefore describes the breeding value of the sheep – and as a breeder isn’t that what you want to know?

Dohne ram breeders produce ASBVs for major measured performance traits, including number of lambs weaned (NLW), maternal weaning weight (MWWT), body weight (WT), muscle depth (EMD), fat depth (Fat), fleece weight (CFW), fibre diameter (FD) and coefficient of variation (CV) of FD (see over page for more detail).

Dohne ASBV performance is based on the measured evaluation made by the ram breeder. The measurement is then “value added” by accounting for factors that breeders recognise can improve the ability of the measured performance to describe a sheep’s breeding value. Factors accounted for include the trait heritability, if the sheep was a twin or single, date of birth of the sheep, maiden or adult dam age, the sheep’s pedigree (relative’s) performance and difference in environment between groups.

Pedigree performance records allow ASBVs to be compared across-years and flocks. Dohne rams and ewes from large and small Registered Dohne ram breeding flocks can in this way be directly compared.

A Dohne ASBV describes the expected performance of a Dohne’s progeny for a trait relative to the performance of all Registered Australian Dohne ram breeding flocks.

**The Dohne Index – Dohne Dual Purpose 9% MP**

The Dohne Index summarises into one number the performance of a Dohne for measured traits – number of lambs weaned, weaning and yearling weight, muscle depth, fat depth, fleece weight, fibre diameter and CV of fibre diameter. Having one number to use simplifies and improving the accuracy of selections. The balance in which traits are combined matches the Dohne Breeding Objective –

- improve reproduction, growth rate, muscle depth, and reduce fibre diameter,
- maintain fat depth, fleece weight and staple strength.

Meat traits contribute approximately 75% of the commercial flock gain and wool traits 25%. The Dohne Index is based on a 9% MP (micron premium) wool market and high return lamb market that values high growth and reproduction.

**Benchmark to the current Dohne breed standard – Percentile Band Table**

The performance of a registered Dohne sheep relative to the current Dohne breed standard (2012 drop – the most recent drop) is reported in the percentile band table below. For example, if a Dohne ram has a yearling weight (YWT) ASBV of 4.8 this sheep is in the highest 20% for YWT when compared with the current Dohne standard. That is they have a higher YWT than the 20% band (4.7 kg). The sheep is not in the highest 10% as they would need to have an ASBV of 5.4 or higher. In this context “highest” means the extreme end of performance for a trait; it does not indicate “best” as best is defined by a breeder’s objective.

An ASBV of 0.0 (zero) is the average of the 2000 drop ram breeding flocks. The 50 percentile band is the average of the current drop, e.g. YWT is 3.4 kg.

**Percentile Band Table** – benchmark to the performance of the current Dohne drop (01 August 2013 analysis)

<table>
<thead>
<tr>
<th>Percentile Band</th>
<th>NLW (%)</th>
<th>MWWT (kg)</th>
<th>WWT (kg)</th>
<th>PWT (kg)</th>
<th>YWT (kg)</th>
<th>EMD (mm)</th>
<th>YFat (mm)</th>
<th>YCFW (%)</th>
<th>YFD (µm)</th>
<th>YFDCV (%)</th>
<th>Dohne Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>0.0</td>
<td>1.2</td>
<td>3.7</td>
<td>4.0</td>
<td>5.4</td>
<td>1.1</td>
<td>0.4</td>
<td>12.0</td>
<td>-1.0</td>
<td>-1.4</td>
<td>136</td>
</tr>
<tr>
<td>20</td>
<td>0.0</td>
<td>1.0</td>
<td>3.2</td>
<td>3.5</td>
<td>4.7</td>
<td>0.9</td>
<td>0.3</td>
<td>9.0</td>
<td>-0.8</td>
<td>-1.1</td>
<td>133</td>
</tr>
<tr>
<td>30</td>
<td>0.0</td>
<td>0.8</td>
<td>2.9</td>
<td>3.1</td>
<td>4.2</td>
<td>0.7</td>
<td>0.2</td>
<td>8.0</td>
<td>-0.6</td>
<td>-0.9</td>
<td>130</td>
</tr>
<tr>
<td>40</td>
<td>0.0</td>
<td>0.6</td>
<td>2.6</td>
<td>2.8</td>
<td>3.8</td>
<td>0.6</td>
<td>0.2</td>
<td>6.0</td>
<td>-0.5</td>
<td>-0.8</td>
<td>127</td>
</tr>
<tr>
<td>50</td>
<td>0.0</td>
<td>0.5</td>
<td>2.4</td>
<td>2.5</td>
<td>3.4</td>
<td>0.5</td>
<td>0.1</td>
<td>5.0</td>
<td>-0.4</td>
<td>-0.6</td>
<td>125</td>
</tr>
<tr>
<td>70</td>
<td>0.0</td>
<td>0.2</td>
<td>1.8</td>
<td>1.9</td>
<td>2.6</td>
<td>0.3</td>
<td>0.0</td>
<td>3.0</td>
<td>-0.1</td>
<td>-0.2</td>
<td>120</td>
</tr>
<tr>
<td>90</td>
<td>0.0</td>
<td>-0.3</td>
<td>1.0</td>
<td>1.0</td>
<td>1.3</td>
<td>-0.1</td>
<td>-0.3</td>
<td>-1.0</td>
<td>0.3</td>
<td>0.3</td>
<td>112</td>
</tr>
</tbody>
</table>

* Note: A more detailed Percentile Band Table is available - 51 Percentiles – 1-Aug-2013.pdf and available on the ADBA web site - http://www.dohne.com.au/

**Traits abbreviations**

- NLW: number of lambs weaned
- MWWT: maternal weaning weight
- WT: bodyweight
- EMD: eye muscle depth
- Fat: fat depth
- CFW: clean fleece weight
- FD: fibre diameter
- FDCV: FD coefficient of variation

**Age abbreviations**

- W: Weaning
- P: Post weaning
- Y: Yearling

**Example when combined**

YWT = yearling bodyweight