

Expression of ABVs for Non-Production Traits

Key messages

- › ABVs for conformation traits, daughter fertility, liveweight, calving ease, survival, workability and cell count will be simpler to use from April 2008.
- › Production ABVs will stay the same
- › All non-production ABVs will be presented as a percentage above or below the average of 100.

Australian Dairy Herd Improvement Scheme

ADHIS is the dairy industry's independent genetic evaluation service. It is focused on improving the understanding and utilization of Australian Breeding Values (ABVs).

ADHIS sought input from farmers and herd improvement service providers who said that it was important to simplify bull selection through improved expression of ABVs.

Changing ABV Expression

From April 2008, ABVs for non-production traits will be expressed as a percentage more or less than the base (average) which is set at 100. For example, a Milking Speed ABV of 105 means the bull is 5% greater than average.



This is similar to the way cows are evaluated according to Production Index (PI) within a herd.

The new expression of ABVs will apply to conformation traits, daughter fertility, liveweight, calving ease, survival, workability and cell count traits. The expression of production ABVs, the Australian Profit Ranking (APR) and Australian Selection Index (ASI) will remain unchanged.

What is the base (average)?

ABVs are not an absolute measure of how much an animal will produce. Rather, ABVs are expressed relative to each other using a base point. The base is set to represent the average cow currently milking in Australian dairy herds. The base is set at 100 and provides a reference point for comparisons between bulls and cows.

ABVs for non-production traits are available for bulls but they are not available for cows. Because of this the base for non-production traits will be set in 2008 to be the average of all AI bulls with a publishable ABV that were born in the years 1994 to 1998. ADHIS has found that this group of bulls best represents the genetic merit of the average cow currently milking in Australian dairy herds.

The base will now be updated annually to keep pace with trends in the Australian dairy herd. A rolling group of bulls born in a 5-year period is used as the base to reduce fluctuations in ABVs from year to year. In ADHIS publications, the term 'average' will be used rather than 'the base' in order to simplify the message.

ABV Example

The following is an example of what an April 2008 ABV will look like using the new method of expression.

| Bull ABVs | | Holstein – April 2008 | | | |
|---------------|---------------|-----------------------|----------------|--------------------|-------------------------|
| Name | | IAMA SAMPLE BULL | | | |
| Item | Value | Pedigree | Bull ID | National ID | International ID |
| NASIS ID | XXXXXXXX | Bull | Sample | A0000XXXX | HOLAUSM0000A0000XXXX |
| Herdbook ID | XXX123456 | Sire | 9H1401 | A00008149 | HOLUSAM000002070579 |
| Defects Code | TV | Dam | – | G02001438 | HOLUSAF000014724612 |
| Date of Birth | 26 April 1994 | MGS | 8H2085 | A00007170 | HOLUSAM000002020049 |

| Production ABVs | | Workability ABVs | | Conformation ABVs | |
|-----------------------|---------------|-------------------------------|---------------|------------------------|---------------|
| APR | 121 | Milking speed | 105 | Overall type | 100 |
| APR reliability | 99 % | Temperament | 100 | Mammary system | 99 |
| ASI | 105 | Likability | 101 | Stature | 122 |
| Protein | 36 kg | Reliability | 99 % | Udder texture | 111 |
| Fat | 22 kg | AUS daughters | 7,453 | Bone quality | 101 |
| Milk | 1,078 ltrs | AUS herds | 1,204 | Angularity | 108 |
| Protein (%) | 0.13 | | | Muzzle width | 101 |
| Fat (%) | -0.35 | Survival ABV | | Body length | N/A |
| Reliability | 99 % | ABV | 102 | Body depth | 105 |
| Records in progress | 16 % | Reliability | 99 % | Chest width | 103 |
| AUS daughters | 29,226 | AUS dtrs | 22,394 | Rump length | N/A |
| AUS herds | 2,620 | AUS herds | 2,065 | Pin width | 109 |
| Herd with most dtrs | 192 | Countries with dtrs | 6 | Pin set | 115 |
| Herd with second most | 187 | Country | Number | Foot angle | 108 |
| Countries with dtrs | 6 | AUS | 22,394 | Rear set | 95 |
| Country | Number | NZL | 11,243 | Rear leg rear view | 94 |
| AUS | 29,226 | | | Udder depth | 100 |
| NZL | 12,711 | Calving Ease ABV | | Fore attachment | 103 |
| | | ABV | 95 | Rear attachment height | 100 |
| Cell Count ABV | | Reliability | 98 % | Rear attachment width | 108 |
| ABV | 95 | AUS calvings | 4,213 | Centre ligament | 112 |
| Reliability | 99 % | AUS herds | 523 | Teat placement | 114 |
| AUS dtrs | 27,675 | Countries with dtrs | 3 | Loin strength | 111 |
| AUS herds | 2,493 | Country | Number | Reliability | 99 % |
| Countries with dtrs | N/A | AUS | 4,213 | AUS daughters | 3,197 |
| | | NZL | 167 | AUS herds | 1,311 |
| Liveweight ABV | | | | Countries with dtrs | 4 |
| ABV | 105 | Daughter Fertility ABV | | Country | Number |
| Reliability | 99 % | ABV | 96 | AUS | 3,197 |
| | | Reliability | 99 % | NZL | 1,686 |