



Heat Tolerance ABV

A helping hand for cows in hot, humid conditions

Key points

- Dairy farmers can now add breeding to their tool box for helping cows handle the heat.
- The Heat Tolerance Australian Breeding Value (ABV) allows you to identify animals with greater ability to tolerate hot conditions and less impact on milk production.
- To breed for improved heat tolerance, look for high BPI bulls with a Heat Tolerance ABV of greater than 100. Use a team of bulls to allow for the lower reliability of the Heat Tolerance ABV.
- Update your Good Bulls App to include Heat Tolerance ABVs.



To breed for improved heat tolerance, look animals with the combination of a high Balanced Performance Index (BPI) and a Heat Tolerance ABV of greater than 100

Australian dairy farmers are familiar with the impact of hot, humid weather on their herds. They use a variety of tools to cool cows during the summer. These include providing shade, fans, water sprinklers, extra drinking water and changing the timing of milking and feeding. [Visit Dairy Australia's website](#) for tools and resources.

Dairy farmers can include breeding to their cool cows toolkit. The Heat Tolerance ABV allows you to breed animals with greater ability to tolerate hot conditions with less impact on milk production.

Genetics and heat tolerance

Although environment and management have a big impact on a cow's response to the heat, genetics also play a role.

Within a herd, some cows demonstrate an increased tolerance for hot and humid conditions than others. Genomic technologies (DNA testing) enable scientists to identify genetic markers for heat tolerance in these cows.

Heat Tolerance ABV

The Heat Tolerance ABV is expressed as a percentage, with a base of 100.

An animal with a Heat Tolerance ABV of 105 is 5% more tolerant to hot, humid conditions than average. Its fall in production will be 5% less than average.

Reliability

The reliability of the Heat Tolerance ABV is 48% for Holsteins and 39% for Jerseys which is lower than conventional production traits but in line with the newer generation of genomic-only traits.

If placing a high priority on selecting for heat tolerance, allow for its lower reliability, by using a team of bulls.

The reference population for Heat Tolerance ABV was expanded in June 2024, resulting in improvements in reliability which are reflected in the figures above.

Breeding for improved heat tolerance

To breed for improved heat tolerance, look bulls with the combination of a high Balanced Performance Index (BPI) and a Heat Tolerance ABV of greater than 100.

Heat tolerance is favourably linked with fertility and unfavourably with production. This means a strong focus on heat tolerance bulls may improve fertility but compromise production. Look for the exceptional animals that are strong for both BPI or production, and heat tolerance.

Make sure you update your Good Bulls App to include heat tolerance ABVs.

More information

[Tech Note Heat Tolerance ABV](#)

Acknowledgement

DataGene is an initiative of Dairy Australia and the herd improvement industry. DairyBio provides the research pipeline to develop and maintain Australian Breeding Values.

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