



International Wagyu Office: Fact Sheet

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International Member Trends:

International Wagyu breeder membership has been part of the AWA since the Takeda Farm membership was created in 1996. There has been a global trade of Wagyu genetics into and out of Australia since then and a continual increase in AWA international full membership as Wagyu breeders around the world have shared genetics with Australia and visa-versa.

The total AWA membership now stands at approximately 1,200 full members, with 450 being international members.

AWA Constitution:

Under the AWA Constitution, the purposes of the AWA include:

- 3.1 To advance the Wagyu Cattle breeds in Australia and internationally, including through implementation of genetic, production and meat technologies.
- 3.2 To uphold integrity in the global Herdbook on Wagyu cattle including compilation of pedigrees, genetic information and performance data including registers of Wagyu and Wagyu-based cattle.
- 3.4 To support and promote marketing and sale of world-leading Wagyu cattle, genetics and beef.

These purposes have been achieved through working with AWA's international membership and expansion of AWA's international footprint to harness all available Wagyu genetic diversity and high genetic merit animals.

The AWA Constitution does not discriminate between membership rights of Australian or International members.

Under the AWA Constitution, members are defined as:

15. Application for full membership
 - 15.1 Any individual who:
 - (1) is not less than 18 years of age at the date of application; and
 - (2) is involved in the commercial breeding and/or production of Wagyu or Wagyu-cross cattle;
- may apply for full membership of the Company.



Improved business efficiency:

AWA has previously managed support of all Australian and International members through its Australian office business hours. Given the sustained increase in global membership of the AWA and the increase in complexity of services provided to AWA members, services to international members will be significantly improved through operation of AWA's international office within the USA, which will allow us to better assist USA, UK and EU members.

To a large extent, AWA international member services expenses that would have been incurred and charged through the Australian AWA office, will instead be incurred through service of international members through new AWA international office in Texas.

International members will benefit from increased turnaround time in addressing service requests within USA office hours that better overlap with the UK, EU and USA/Canada. Australian members will likewise benefit from increased turnaround time with Australian based staff primarily addressing Australian member requests within Australian office hours.

In May 2023, the AWA Board approved establishment of an international office to improve service provision and engagement with AWA Australian and international members, and to enable continual improvement of our world-leading services for Wagyu breeders. This recognises the need to provide efficient services to the international full membership of the AWA, which now spans 30 different countries across almost all world time-zones.

The Global Wagyu Gene Pool:

Understanding the need for global access to Wagyu genetic diversity, the Australian Wagyu Association brought together representatives of international Wagyu Associations in 2015 to form the World Wagyu Congress. This enabled streamlining of DNA parentage and registration systems for most global Wagyu registries under common processes, information sharing and reciprocal recognition between Associations. The AWA maintains formal service partnership arrangements with many international Wagyu Associations.

The AWA Herdbook now contains more than 300,000 registered Wagyu cattle from our members in more than 30 countries. The ability for other countries to link their Herdbook to the AWA registry has cemented the AWA Herdbook as the global standard for Wagyu breeding and genetic diversity. This has delivered an increase in the contribution of international animals to the AWA Herdbook and gene pool, enabling all breeders to access outcross and rare genetics as suits their individual herd requirements.

Increasing the contribution of international animals to the AWA Herdbook will expand AWA pedigrees further and secure the AWA's position as the most diverse, comprehensive and accurate Wagyu registry globally.

Managing Inbreeding:

In a closed population of animals (like the Fullblood Wagyu population), where no new genetics can be introduced to the gene pool to maintain or improve genetic diversity, increases in inbreeding can occur. Inbreeding depression is the reduced phenotypic performance in animals within a population over time resulting from increased inbreeding. It is the opposite of heterosis, which is observed in crossbreeding of cattle.

Inbreeding depression is normally observed in reduced survival of offspring, reduced reproductive performance and reduced growth trait performance in populations where genetic variation is low and inbreeding is high. For every 1% increase in inbreeding, trait performance in reproduction/survival, growth and production traits can be reduced by 0.1% to 0.5% depending on the specific trait

<https://onlinelibrary.wiley.com/doi/full/10.1111/age.12178>).

Negative effects of inbreeding depression can be observed at levels higher than 5%. Based on pedigree relatedness across all Wagyu animals within the AWA database, the average pedigree inbreeding coefficient is 6.6%. However, this calculation is based on shortened pedigrees that fail to recognise ancestral inbreeding of Wagyu cattle in Japan prior to exportation of the global Wagyu herd. Actual inbreeding calculated using genomic relatedness within the AWA database estimates true average inbreeding closer to 10%, indicating that strategies to enable improved management of inbreeding and increased genetic diversity are of immediate importance. A globally accessible database of all available genetic diversity is a necessary tool for enabling future security of the Wagyu gene pool.

Optimising Genetic Diversity:

The global Wagyu gene pool is a narrow and shared resource across all countries able to export and import Wagyu genetics following the original exports from Japan. Over the last 10 years, the number of international animals registered with the AWA has increased significantly. Alongside the rapid uptake of genomic testing, this provides new insights into available genetic diversity within the global Wagyu population that can benefit all breeders.

Expanding access to the global diversity in the Wagyu breeding population through increasing access to international genetics will enable improved management of future inbreeding will assist all AWA members to improve the population management of Wagyu cattle.

The AWA now has a genomics database for Wagyu cattle of more than 400,000 genotypes (300,000 are registered, 100,000 are not yet registered). Through increased inclusion of internationally bred Wagyu cattle, we are better able to examine the genomic differences between every single animal in the population. We will shortly be providing new tools (genetic diversity and inbreeding measures) to assist all Australian and International members to identify genetic diversity with the global Wagyu population and use this within their breeding programs.



Expanding the benchmarked Gene Pool:

Increased international member animal registration and genomic testing has improved the ability for International AWA members to contribute their genetics into benchmarking programs. This includes benchmarking their performance within Australian herds through collaborations and through the AWA-PTP. Increasing participation and active exchange of genetics between international members and the Australian Wagyu population through the AWA-PTP will enable access to outcrossed genetics that have quantified performance estimates in the globally accepted Australian trait scales.

Maintaining the AWA genetic analysis as the accepted global standard:

AWA International membership growth and use of AWA published EBVs and selection indexes has created a common language for breeders around the world to work together and share genetics. The AWA has the largest globally accessible registry of Wagyu animals and the largest database of phenotypic and genomic records of Wagyu animals.

The AWA's genetic analysis is the globally accepted and by far the most comprehensive and accurate analysis for Wagyu cattle. Expanding the international engagement with the AWA's registry and genetic improvement tools will aid stable future genetic progress for all members through continued use of AWA's tools as the global benchmark for Wagyu.