TRADITIONAL JAPANESE ORIGINS

In Japan there are four significant breeds described as 'Wagyu'. The largest is the Japanese Black, comprising about 95% of the Japanese national Wagyu herd, and the predominant breed exported through the USA to Australia. The Japanese Brown comprises about 4% of the Japanese herd, comprises two strains, and is substantially influenced by Simmental and Korean genetics, and is referred to as Red Wagyu in Australia. The Japanese Polled and Japanese Shorthorn are niche breeds that are not present outside Japan.

There is evidence of the main Wagyu breed, the Japanese Black, from 3,500 years ago. Genetically different Japanese Black sub-populations were developed in different prefectures. Modern Wagyu cattle are also, to an unmeasured extent, the result of joining native Japanese cattle in Japan with imported breeds. Crossing began in 1868 under the Meiji restoration, when the Japanese Government imported Brown Swiss, Devon, Shorthorn, Simmental, Ayrshire, and Korean cattle, using different imported breeds for specific prefectural herds. The policy was revoked in 1910, and the effective influence of the imported genetics on the native cattle herds that then continued in prefectural isolation is not well established. It continues to be debated today.

By the end of WWII, the enforced segregation of prefectural herds was largely abandoned. Hyogo Prefecture, the home of 'Tajima' cattle, was then, and still remains, the only 'segregated' prefectural herd remaining. The modern Japanese emphasis on breeding for beef production commenced as recently as the 1950s, as mechanisation swept through Japanese agriculture and cattle ceased to be bred for work applications.

International science has identified patterns of genetic variation in the Japanese Black prefectural herds, forming genetically diverse sub-populations or strains, which are believed to result from centuries of regional isolation and phenotype selection for different types of agricultural work. Of these, three major Japanese Black prefectural sub-breeds have significant influences on current international breeding. These are: Tajiri or Tajima (from Hyogo Prefecture), Fujiyoshi (Shimane Prefecture) and Kedaka (Tottori Prefecture). The fourth important Itozakura (modern) strain formed around the prolific and dominant sire Dai 7 Itozakura from the 1960s.

These strains are also recognised as the key reservoir of genetic diversity in the national Japanese Black herd, where effective population size is challenged. To meet this challenge, structured selection of genetics from different prefectural strains is a formal policy component of Japanese national breed conservation and development.

Modern Wagyu beef production in Japan remains highly regulated. A national Japanese industry entity, ZENWA, oversees the breed registries for Japanese Black, Brown, Polled and Shorthorn. Breed development follows strict guidelines, including independent progeny testing for sire selection and national production data collation, with carcase data dissemination (using within-herd BLUP EBVs) back to the individual herd level. Only the very best proven genetics are kept for breeding and artificial breeding is dominant with more than 90% of annual joinings.

The export of Wagyu genetics that created the international Wagyu herds occurred for less than 20 years in the 1980s and 1990s before the export market was closed and the Japanese Government declared Wagyu 'a national living treasure'.

The Australian Wagyu Industry has grown from a limited sample of genetics selected from the larger Japanese Black populations, with a marked emphasis on Hyogo. The level of pre-existing inbreeding within this export group has not been measured, but AWA continues to monitor subsequent inbreeding within Australia. It is important that breeders understand and manage in-breeding within their herds. Breeders are encouraged to use the Wagyu Mating Predictor tool; go to www.wagyu.org.au, click on Search>Animal Search>Mating Predictor to consider the prefectural characteristics of the Australian Wagyu population.

MAJOR WAGYU PREFECTURAL BLOODLINES

What we now call the Black Wagyu breed within Australia is a combination of the unique Japanese Black strains of the different prefectural herds of Japan, which has significant outcomes in noticeable variability in conformation.

AWA plan to undertake scientific analysis of prefectural bloodlines in Australia. Segmenting the Australian national herd by prefectural influence should be possible as most of the major foundation sires are still in use and there are many first-generation progeny available for analysis. Significant prefectural diversity remains, with resulting breeding and genetic conservation opportunity. For most Australian production purposes, there are three traditional Japanese Black prefectural bloodlines, and one modern strain. All lines are used for Fullblood meat production.

HYOGO PREFECTURE

Descendants of Hyogo breeding form the largest segment of the Australian fullblood herd. Hyogo is the home of Kobe Beef and the sole remaining segregated prefectural herd in Japan. Hyogo cattle are known for superior meat quality but relatively small stature. Carcase weights are significantly lower than the Japanese national average, and average carcase BMS (JMGA marble score) is not significantly higher. The most common and well-known Hyogo sire bloodline in Australia is Tajima, but the Kumanami strain is represented in the sire Itoshigenami, also frequently described as Tajima outside Japan. Hyogo cattle are considered ideal outcross sires in the production of crossbred Wagyu F1 50% feeder cattle. The numerical dominance of high Hyogo content animals in the Australian herd is a result of original import demand for F1 production sires. This is the most commoditised strain of Black Wagyu both in Australia and Japan. Some infusion of Hyogo genetics is generally regarded as essential in the efficient production of the best quality Wagyu beef. Due to high levels of inbreeding in the Hyogo sub-genome, care is needed in joining strategies.

ITOZAKURA LINE

The second most common grouping in Australia, this is a modern bloodline founded on the famous sire Dai 7 Itozakura, combining Hyogo and Okayama prefectural genetics (in Shimane Prefecture). Many seedstock of Takeda Farm breeding fall within this grouping and the founding sire is prominent in many Australian pedigrees. The line is sometimes incorrectly described as Fujiyoshi. The founding sire of the line was the premier Japanese Black sire for superior beef production in Japan over a lengthy period, combining consistent high marbling with strong growth.

SHIMANE PREFECTURE:

The third highest Australian herd representation it is also often described as Fujiyoshi. This lightly represented group consists of medium framed cattle with good maternal qualities, growth rates and meat quality.

TOTTORI PREFECTURE:

In terms of national calf registrations, Tottori prefecture genetics have dominated Japanese Wagyu beef production since the 1960s, but the prefecture is only lightly represented in Australia through the Westholme Fullblood herd. The two main sub-strains are Kedaka and Eikou. Tottori produces larger animals featuring straight, strong back lines, good growth rates, superior maternal ability and high yielding, high quality carcasses. In terms of percentage infusion in national sire production tables Tottori remains the most influential strain in Japanese breeding.

JAPANESE BROWN:

Known as ‘red’ lines (Akaushi), Kochi and Kumamoto in Australia, have been strongly influenced by Korean and European breeds, particularly Simmental.