African genes drive herd fertility at Mt Eugene

The Maynards run 400 performance recorded Belmont Red breeders with herd records for 200, 400 and 600 day weights, scrotal circumference, rib-eye and fat scans and calving interval dating back over 25 years.

Geoff and Alison Maynard are continuing on the pioneering genetic work that Geoff's parents, Pat and Estelle, began in the 1970s.

"Up until the 1960s we ran Brahman cattle at Mt Eugene but my father was convinced that cattle on this type of country should achieve better than 75 per cent pregnancy rate," says Mr Maynard. "He took the opportunity to host a DPI breeding trial that compared the performance of five breeds in the 1970s."

The trial ran for eight years and showed Belmont Red cattle were well adapted to the climate and were 15 per cent more fertile than any Bos indicus derived breeds. This motivated the Maynards to change and they purchased cattle from the first release of Belmont Red cattle in 1972.

Aside from the immediate productivity gains the Maynards were also introduced to the benefits of herd recording—something they have continued to do as their herd and production system has progressed.

Alongside the Belmont Red herd the Maynards also run a line of Senepol breeders. "Like the Belmonts the Senepol are half African Bos taurus and half English Bos taurus," said Mr Maynard. "So both are successful tropical composites and having both allows us to introduce new genetics and hybrid vigour into our breeding program."

In the 1990s the Maynards sold 50,000 straws of Belmont semen to buyers in Brazil. When they went to Brazil to view the calves they also saw Senepol and Bonsmara cross calves and were interested in these 'like-type' genetics. "The Mt Eugene Senepol herd is pure bred while the Belmont Red herd is now infused with some Senepol and Bonsmara genetics," said Mr Maynard. "Senepol are a polled breed and also have a slick coat that offers extra resistance to tropical parasites."

Having such a strong set of performance data has been of great value to genetic research for the northern cattle industry. For instance, the Maynards submitted data on 1000 progeny to a Beef CRC meat quality progeny test and have had 40 of their sires analysed for marbling, carcase yield, tenderness and feed conversion traits.

The stud operation produces 150–200 bulls for sale each year, mostly Senepol/Belmont Red and Senepol/Charolais crosses, all sold rising two years of age.

The stud herds are control-mated for three months, December to February, to ensure all calves are on the ground by December. The male progeny are weighed at 200 days and this is the first selection point. The best are kept entire and weighed again at 400 days. "We are looking for

Maynard Cattle Co. owned and operated by Estelle, Geoff and Alison Maynard

Location
Mt Eugene (4250 ha), Jambin, north of Biloela, total grazing area of 8100 ha across the Biloela–Blackwater area, owned and leased land.

Land types
Mt Eugene is undulating ironbark and bloodwood forest country with black speargrass and seca stylo pasture. Other properties are a better class of country of brigalow scrub with buffel and sabi grass.

Average rainfall
Summer dominant, 525 mm average over last 20 years.

Objectives
Selection based on growth, meat quality and fertility trait recording using tropical composite BREEDPLAN.

Achievements
Most bull calves achieve scrotal circumference of 29 cm by 400 days. Early puberty bulls sire early puberty females without compromising growth or meat quality.

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>
> Geoff Maynard, Maynard Cattle Co, Mt Eugene

above average early growth and a scrotal size of 29 cm at 400 days," said Mr Maynard. "The final weight measurement is at 600 days and we also measure scrotal size again, looking for a minimum circumference of 34 cm. Most of our bulls are achieving 34 to 42 cm scrotal circumference by 600 days."

The bulls are also ultra-scanned prior to sale to record their fat, marbling and rib-eye muscle size, indicators of meat quality and yield.

The Maynard's progeny recording has proven that early-maturing bulls will throw early-maturing female progeny. "We use yearling mating to help identify the most fertile females from each crop of heifers," said Mr Maynard. "In some years this is not possible but mostly it works well. We also allow a yearling-mated cow to miss having a calf in the second year, but after that we expect a calf every year."

So, females must have at least one calf on the ground by the time they are three years old and then they must produce a calf every year after that, within the three month seasonal mating period.

The Belmont Red herd has an average pregnancy rate of over 90 per cent and the lead of the Senepol herd have almost reached this level too. While most of the Maynard's clients are looking for bulls to 'help fill the weaning yards', using tropical composite bulls in their Brahman herds will have the added meat quality bonus of reduced Brahman content without compromising on do-ability. "The Senepols are very popular at the moment too because of the polledness of the breed," said Mr Maynard.

The tropical composite (TC) register in BREEDPLAN has been a good way to document the fertility of the Maynard's breeding herds. While generally the domain of stud herds only, BREEDPLAN offers the tropical composite register to commercial herds too. The Maynards have been using the TC register since the 1990s to record days to calving as well as other EBV traits. In Australia the Senepol breed only has within-herd BREEDPLAN, not Group BREEDPLAN, because a critical mass of cattle in the breed has not yet been reached.

"When we crossbred with Senepol and Bonsmara we did not put the cattle on BREEDPLAN as this created 'noise' that could distort the EBV calculations," said Mr Maynard. "We wait until the hybrid vigour settles and a naturally-mated, in-season contemporary group of calves have been born before entering them on BREEDPLAN."

The Maynards also run a 500-breeder commercial cross-bred herd, using their own bulls and producing weaners that they either grow out themselves or sell for finishing, depending on the season and cattle prices.

The commercial herd is managed in much the same way as the stud herds with controlled mating and culling based on calf-getting ability. Hybrid vigour is used to maximise early growth of young cattle ready for market. The commercial herd has also played an important part in the Maynard's embryo transfer work, providing 80–100 surrogate mothers for the establishment of the Senepol herd between 2002 and 2007.

Another interesting genetic project the Maynards have been involved with was a tick-resistance trial with CSIRO and Pfizer. One thousand cattle from across all their tropical composite breeds were assessed for tick burden 3–4 times over a period of 12–15 months. The results indicated that some animals, rather than a specific breed, were more tick-resistant than others. "The number of ticks counted on each animal ranged from zero to 140, with an average of 36 ticks," said Mr Maynard. "As part of the trial a genetic profile was analysed for each animal and we have been able to build this information into our selection process."

Their recording has shown it is possible to select for growth, scrotal circumference (fertility) and parasite resistance without compromising any one trait.

"Extra calves, polledness and the traits that are part-and-parcel of tropical composite breeds offer commercial producers much greater market flexibility," he said.