Breeding Brilliance: fertility is essential to profitable beef operations
Josie Copley

Jonathan Thurston needs to share his crown, because fertility is *also* King of the North! This was the message reiterated by a panel of leading reproductive scientists, geneticists and agribusiness professionals to 120 attendees at the “Breeding Brilliance” event during Beef 2024.

Hosted by Brahman bull producers, CBV Brahmans, LCL Brahmans, Copley Pastoral, GEG Bulls and IVV Polls, the panel included some of the industry’s most renowned forward-thinking, enthusiastic and integrity professionals; Professor Emeritus Mike D’Occhio, Professor Jim Kinder, Professor Ben Hayes, Dr Mike Stephens and Ian McLean.

Bush AgriBusiness’ Managing Director, Ian McLean, reflected on analysis of financial data when speaking to the financial impacts of fertility.

“Fertility is a key driver for herd productivity, driving income, which in turn drives profitability.”

Utilising production, genetic and financial data from businesses splitting Queensland into regions, research conducted by Bush Agribusiness and QAAFI revealed fertility had the greatest impact on the bottom line of business in each region.

A key conclusion Ian highlighted was that while a balanced selection approach is essential, “fertility should always be number one”.

Regarding the selection of seedstock producers, Ian emphasised the need to identify and seek out studs aligning with a commercial producer’s breeding and profit objectives.

“Hitch on to a bull supplier who is going in the right direction and travel in their wake.”

Professor Jim Kinder from The Ohio State University in distilling the reproductive science, analogising reproduction in beef cattle to an orchestration, in which the hypothalamus conducts the hormones which dictate reproductive function.

When discussing which key elements significantly impact upon sustainability and profitability, Professor Kinder highlighted adaption and fertility.

“If producers are going to have truly sustainable beef production enterprises, there will need to be selection of animals that ‘best’ adapt to changing environmental conditions, in order to produce subsequent generations of offspring and thus beef they market.

“Therefore, reproduction is the ultimate trait for sustainability in a beef production enterprise.”

Professor Emeritus Mike D’Occhio focused on “Pathway to Pregnancy”, delving into the critical first 21 days in-utero and the importance of uterine receptivity.

Professor D’Occhio emphasised the power of multidisciplinary science, namely genomics and reproductive biology, affirming that the “fertility of CBV genetics is backed by science”.

“Genomic studies in CBV Brahmans have identified genes associated with key reproductive events in the critical first 21 days of in-utero life in cattle.

“But, this is a work in progress, with questions remaining on the genes/biology which fully explain the distinctive fertility of CBV Brahmans.”

Professor Ben Hayes discussed accelerating genetic gain for fertility with genomic tools. Explaining their work has discovered 87 genes are involved in reproduction, including PLAG1 and HMGA2.

Expanding that when using genomic tools to accelerate genetic gain, it is important to focus on a balanced breeding objective. Herds that record phenotypes get the most accurate EBV/GBV.

In reflecting on the research conducted in association with BushAgribusiness, Professor Hayes emphasised the need for producers to focus on reproductive performance, especially those operating in harsher Northern environments.

“The harsher the environment, the more important fertility is to you,” said Professor Hayes.

The key themes were a major emphasis on fertility and adaptability in breeding operations, while adopting a balanced approach to breeding objectives.

Each speaker’s depth of knowledge was coupled with an understanding of the practicalities of beef production and sincere passion for its longevity and sustainability. Breeding Brilliance ensured attendees acquired evidence-based information to best inform decision making in their own operations.