THE VISION FOR NEW ZEALAND'S BEEF INDUSTRY

Q1: If New Zealand's beef industry could design the perfect system to evaluate its genetics, what would it look like?

- Those genetics would be tested on New Zealand commercial farms – from growth rates through to carcase quality and replacement heifer performance.
- This information would then be fed-back to breeders and their clients, to continually improve the on-farm commercial performance of bulls.

Q2: How do we make that happen?

Three key elements are needed:

1. A new way of assessing bulls' genetic performance on commercial farms.
2. A genetic evaluation to evaluate the resulting performance data alongside breeding herd data and report results back to breeders and farmers.
3. Easy-to-use tools that help farmers select the best bull/s for their specific environment and breeding objectives.

Q3: Can we simplify the current industry situation that has different evaluations for different breeds?

- Ideally, there would be a single evaluation across all breeds – just as there is in New Zealand's sheep and dairy industries. Enabling commercial farmers to pick the best bull for their system – irrespective of breed.

Q4: What about future innovations in beef genetics?

While productivity will always be the main driver, New Zealand's beef industry needs a platform that allows for:

- New data sources to be linked in (e.g. dairy-beef data).
- Development of new traits that address current and future issues, such as social licence, environmental emissions and animal welfare.
- Innovation amongst bull breeders.

ABOUT THE INFORMING NEW ZEALAND BEEF PROGRAMME

Informing New Zealand Beef (INZB) is a future focused seven-year programme (2021 – 2027) designed to generate more income for beef producers and the economy while protecting the environment.

Building on skills and knowledge that already exist in New Zealand – courtesy of our world-leading sheep genetic evaluation and previous work such as the B+LNZ Genetics Beef Progeny Test – this is the industry's response to evolving consumer expectations around food quality and how it is produced.

INZB will focus on breeding objectives, and resulting traits, important to New Zealand farmers. Providing a single genetic evaluation for comparing bulls of different breeds. Development of tools will enable commercial farmers to quickly and easily select the right genetics for their farm system and environment.

INZB
INFORMING NZ BEEF

PROGRAMME OUTLINE
INZB involves four components

1. Progeny test herds

Fundamental to an across-breed genetic evaluation is linkage and the ability to make adjustments for hybrid vigour. Industry-good Beef Progeny Test sites will provide those linkages and provide New Zealand collected data to accurately predict hybrid vigour.

INZB goes a step further and will work with farmers to establish Next Generation herds within existing commercial operations. These herds will feed critical information back into the system:

1. Performance data collected in commercial environments.
2. Genomic data calibrated against commercial reality.
3. Female replacement selection data.
4. Carcase data.

2. Develop breeding objectives and indexes

Based on consultation with industry to determine trait priorities, New Zealand-specific indexes can be developed. With the potential to simplify how genetic information (e.g. Breeding Values and Indexes) is presented to occasional users, such as commercial farmers purchasing bulls, while still making detailed information available to breeders and advanced users.

3. Build a genetic evaluation

1. Core productivity traits will be established, based on existing genetic and performance data.
2. Next, new traits will be developed, as identified by sector stakeholders.
3. Building of a multi-breed evaluation will follow.
4. Finally, importing international breeding values will be explored.

4. Data infrastructure
This is the programme's "backend" computing power, where data flows in and out, seamlessly and for maximum benefit to individuals (breeders and farmers) and the national beef herd.

OPPORTUNITIES FOR FARMERS

Next Generation herds

Involvement as a Next Generation herd will appeal to farmers with a passion for genetics, who wish to:

• Assess their bull team's performance.

• Have more accurate information for heifer replacement selection.

• Work with their bull breeders to make more rapid genetic progress.

Some key requirements:

1. Some direct genetic linkage will be needed. This may require a small amount of Artificial Insemination or working alongside your breeder to achieve this (e.g. natural use of a bull in the commercial herd that is used as AI in the stud herd).

2. No weighing of calves at birth will be required but to enable this, accurate foetal age information will be needed. This involves scanning in a narrow window of time by a capable scanner.

3. DNA genotyping will be required on the calves of interest to identify the calf to cow.

4. Some core trait measuring will be needed e.g.

   • Growth weights.
   • Cow Body Condition Score and fertility outcomes (from foetal age data and calf matches).
   • Management mobs.
   • Carcase data (with the potential to collect this direct from meat companies.