Performance Recording To Get The Best Out Of Your Herd

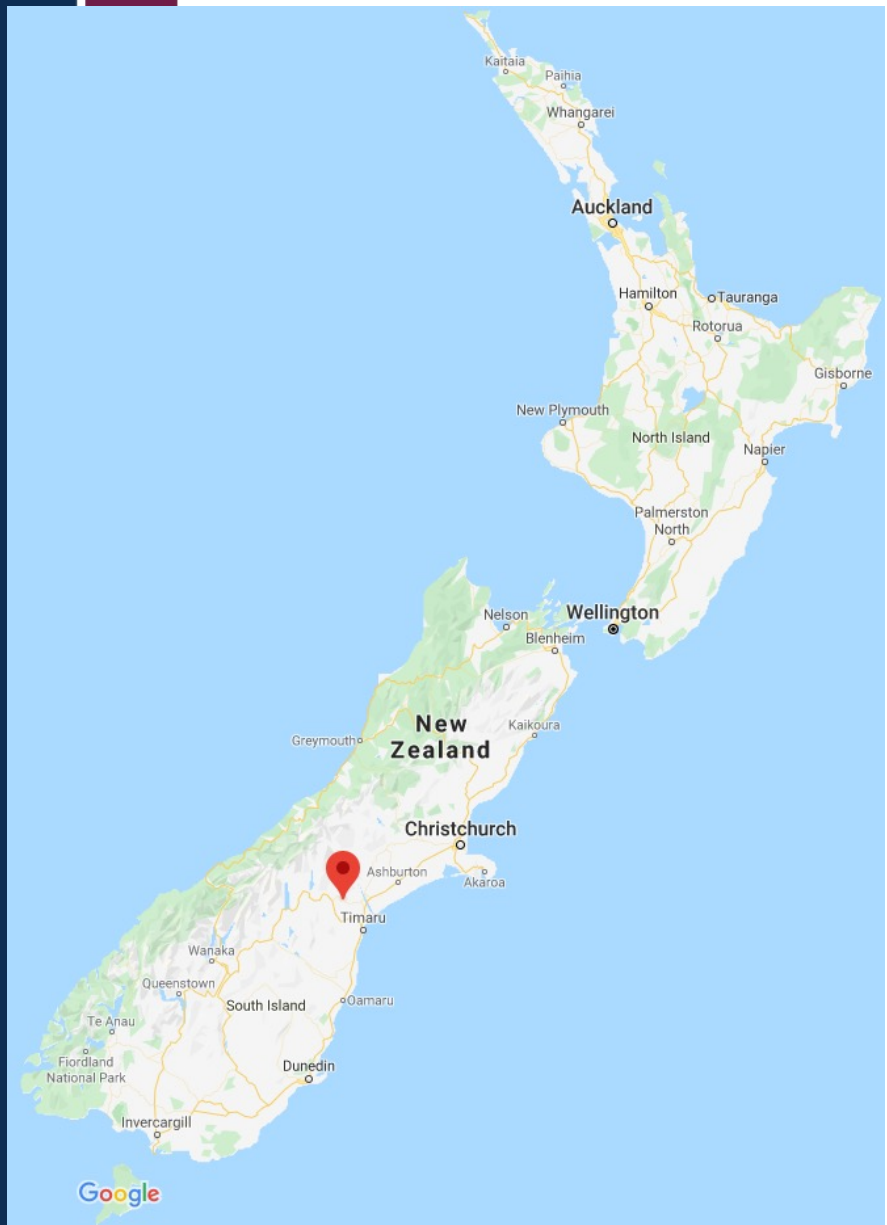
Boyd Gudex

Southern Beef Technology Services

SB TS
SOUTHERN BEEF TECHNOLOGY SERVICES

TB TS
TROPICAL BEEF TECHNOLOGY SERVICES

Who am I?



- Originally from a sheep and beef farm in South Canterbury
- Lincoln University
  - Student & Staff
- Landcorp / LIC / Deer Improvement / Melior Genetics
- NZ Young Beef Breeder exchange to Sitz Angus (USA)
- NZ Beef & Lamb Scholarship to University of New England (Aus.)

Southern Beef Technology Services

Extension service to increase the understanding and use of genetic technologies

- Southern Australian Beef industry
- Partner project, TBTS (Tropical) for Northern Australia
- A NZ version was proposed, I was interviewed in 2010 but…

EBVs Are No Bull

- Not a new technology
  - Methodology originally developed in the 1950's
- BREEDPLAN used by 100+ breed associations representing 44 breeds in 14 countries
  - the world's most widely used genetic evaluation system for beef cattle
- BREEDPLAN EBVs have been scientifically validated to check their accuracy

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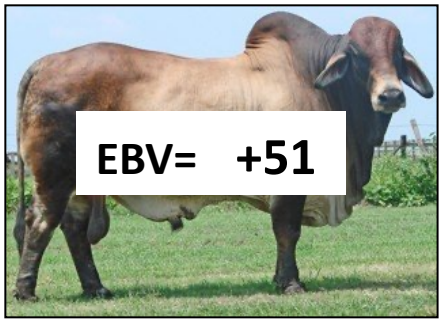
Validating EBVs - Brahman Example

400 Day Weight

Bottom 5 Sires

Top 5 Sires



Expect 17.5 kg

240 kg

17 kg difference

257 kg

Angus EBV Validation

Trait	Progeny Difference	
	Expected	Observed
Birth Weight	1.7 kg	1.9 kg
Gest. Length	2.5 days	2.6 days
400d Weight	12.6 kg	10.2 kg
600d Weight	18.3 kg	17.0 kg
Carc. Rib Fat	1.2 mm	1.1 mm
Carc. Rump Fat	1.5 mm	1.3 mm
Carc. EMA	2.8 cm^2	2.8 cm^2
Carc. IMF	1.0%	1.3%
Net Feed Intake	0.5 kg/day	0.3 kg/day

AngusSire™ Benchmarking Program

https://www.angusaustralia.com.au/sire-benchmarking/lessons-from-the-asbp-overview/ebvs-are-no-bull/

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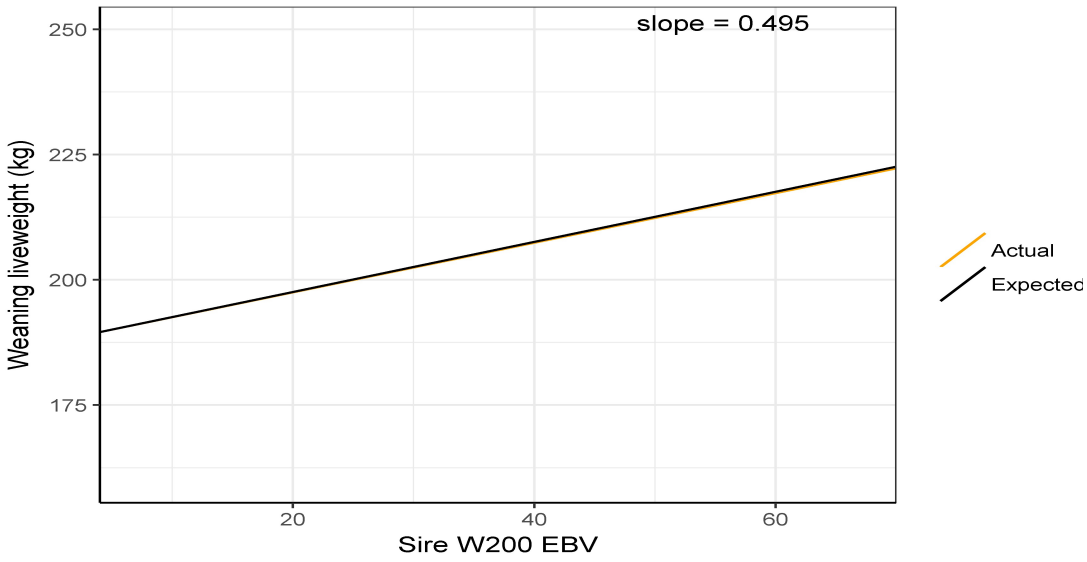
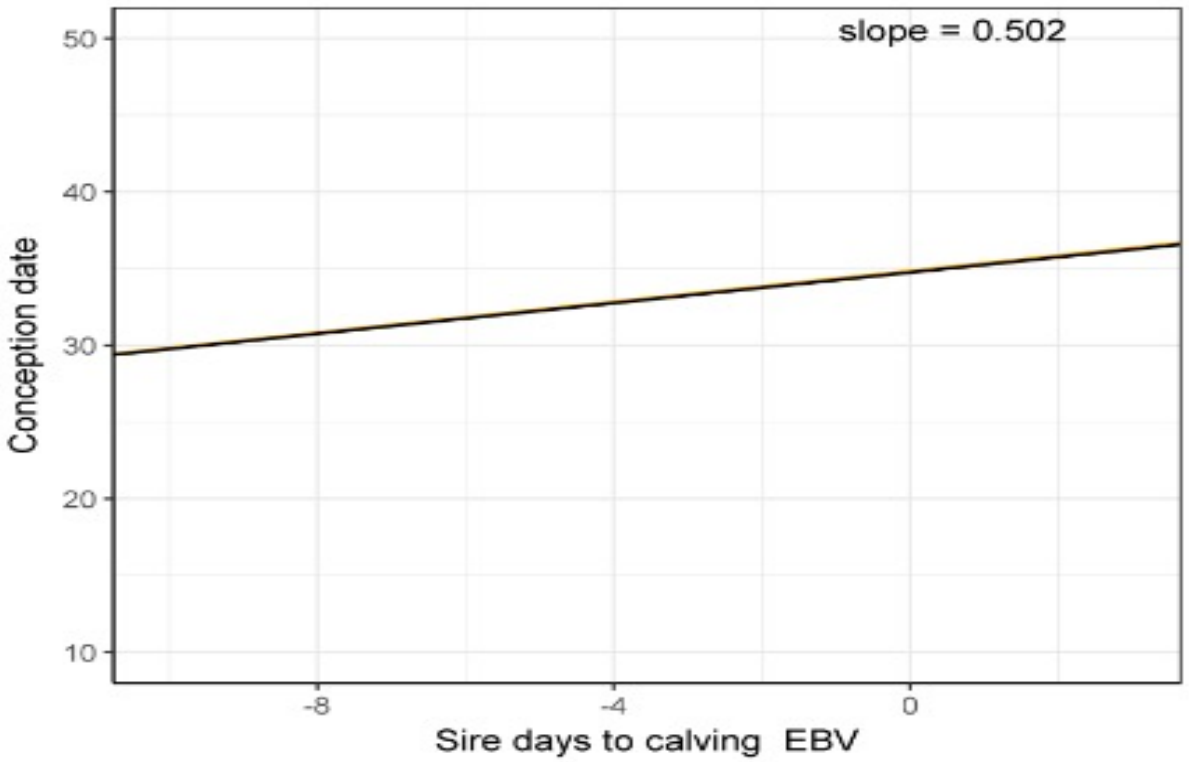
New Zealand Validation

- Independent (of BREEDPLAN) analysis courtesy of Beef and Lamb New Zealand and AbacusBio Ltd

- 90% of the value of breeding values was being passed on to commercial farmers.
  - Amount varied by trait



New Zealand Validation



Better EBVs = better calves = better money

Analysis & graphs courtesy of Beef and Lamb New Zealand & AbacusBio Ltd.

Performance Recording To Get The Best Out Of Your Herd

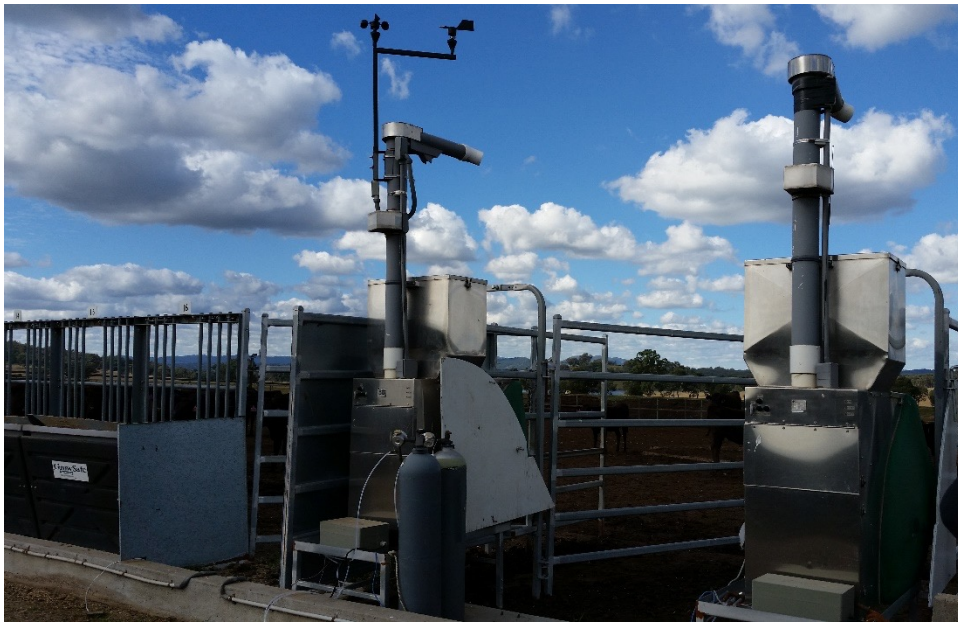
Genetic Evaluations rely on data

- Pedigree
- Genomic (DNA)
- Performance (trait)
- Meta data (date of birth, age, management groups etc)

Genetic Evaluations Rely On Data

BUT

Data can be expensive and/or difficult to collect



BREEDPLAN Recommendation

Record the traits that are important to you and/or your clients breeding programs

But Which Traits Are Important?

- Own perspective
  - Highly variable between breeders
  - Possible to be mislead by the traits that are easy to observe or are popular
- Traits influencing profitability
  - Observable in the graphs provided with selection indexes

BreedObject Selection Indexes

- Net profit per cow mated ($) for a given production/market scenario

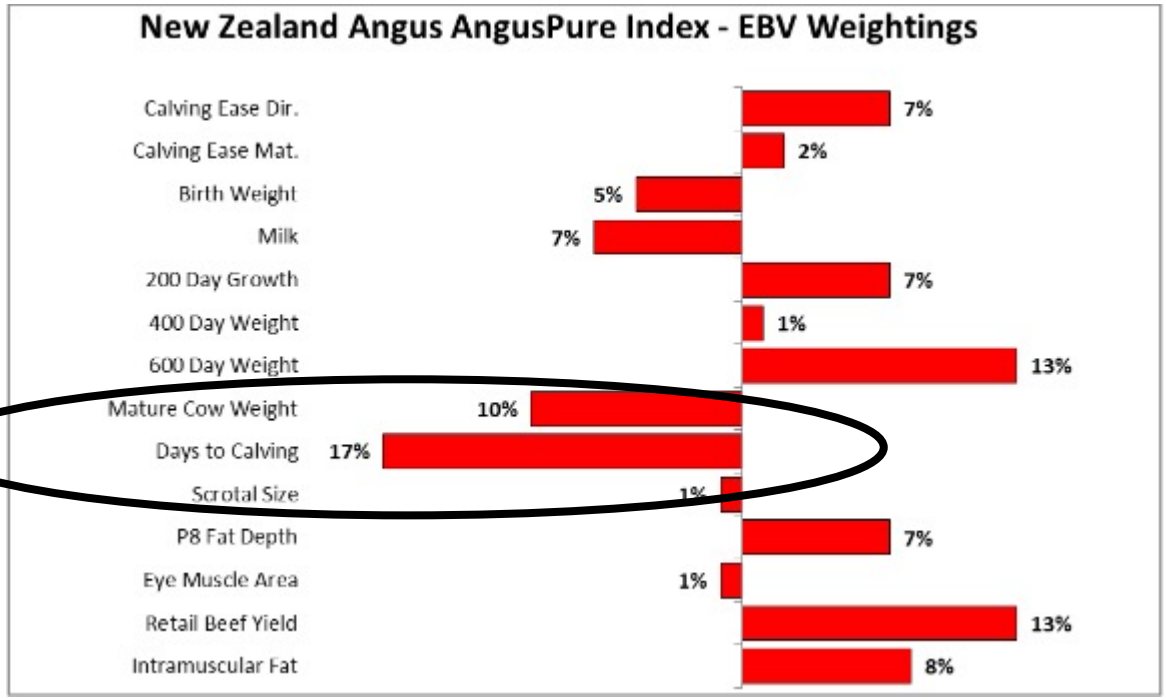
- Include:
  - Short term profit (value of sale progeny)
  - Long term profit (value of daughters in herd)
  - Costs of production

SELECTION INDEX VALUES		
Market Target	**Index Value**	**Breed Average**
Self Replacing Index ($)	+$ 233	+$ 102
Angus Pure Index ($)	+$ 284	+$ 106
Heifer Dairy Terminal Index ($)	+$ 151	+$ 103
Explanation of $Index Values		

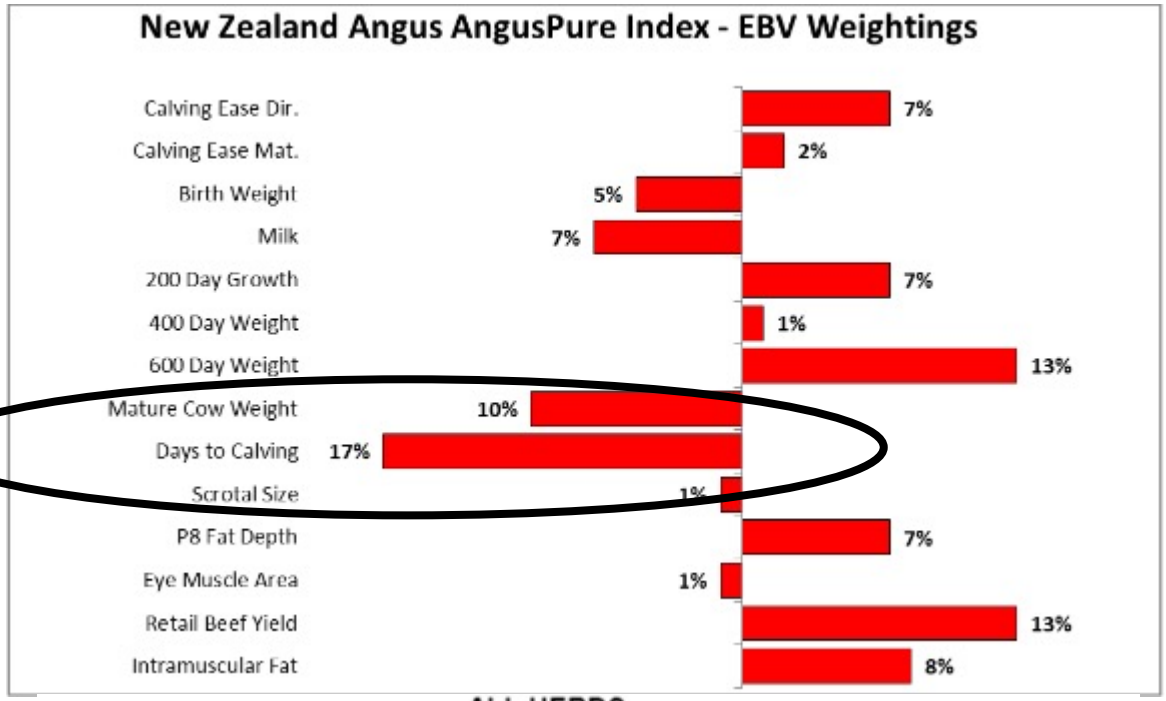
Selection Index Context

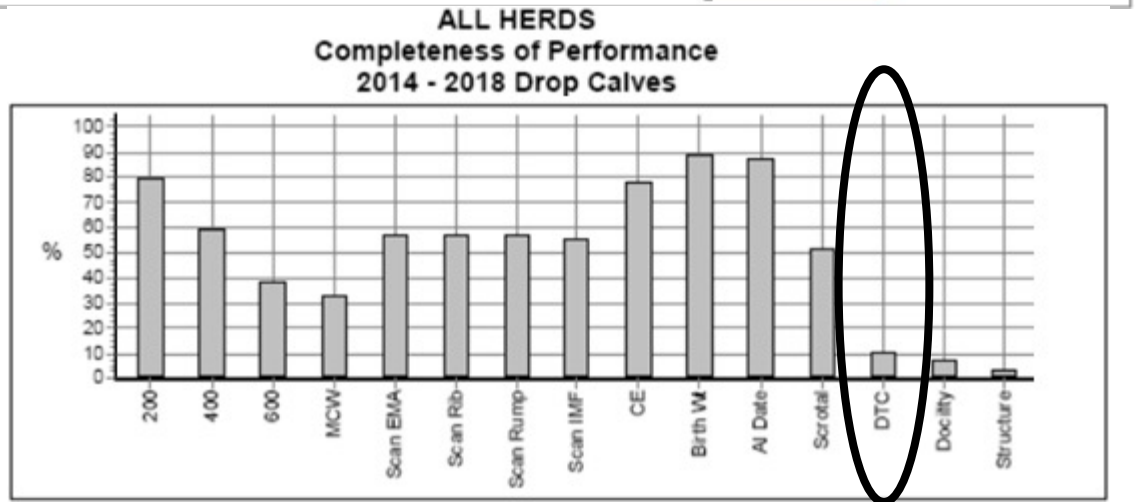
- Important to choose the right selection index for your production system
- Selection Indexes should **NOT** be the sole selection criteria
  - **Recommendation:** Use indexes to create a shortlist than do further selection within the shortlist
    - Designed for a typical NZ farm, not every farm
    - Not all traits are included in selection indexes e.g. structure, temperament, genetic conditions, bull fertility etc.

BreedObject Selection Indexes

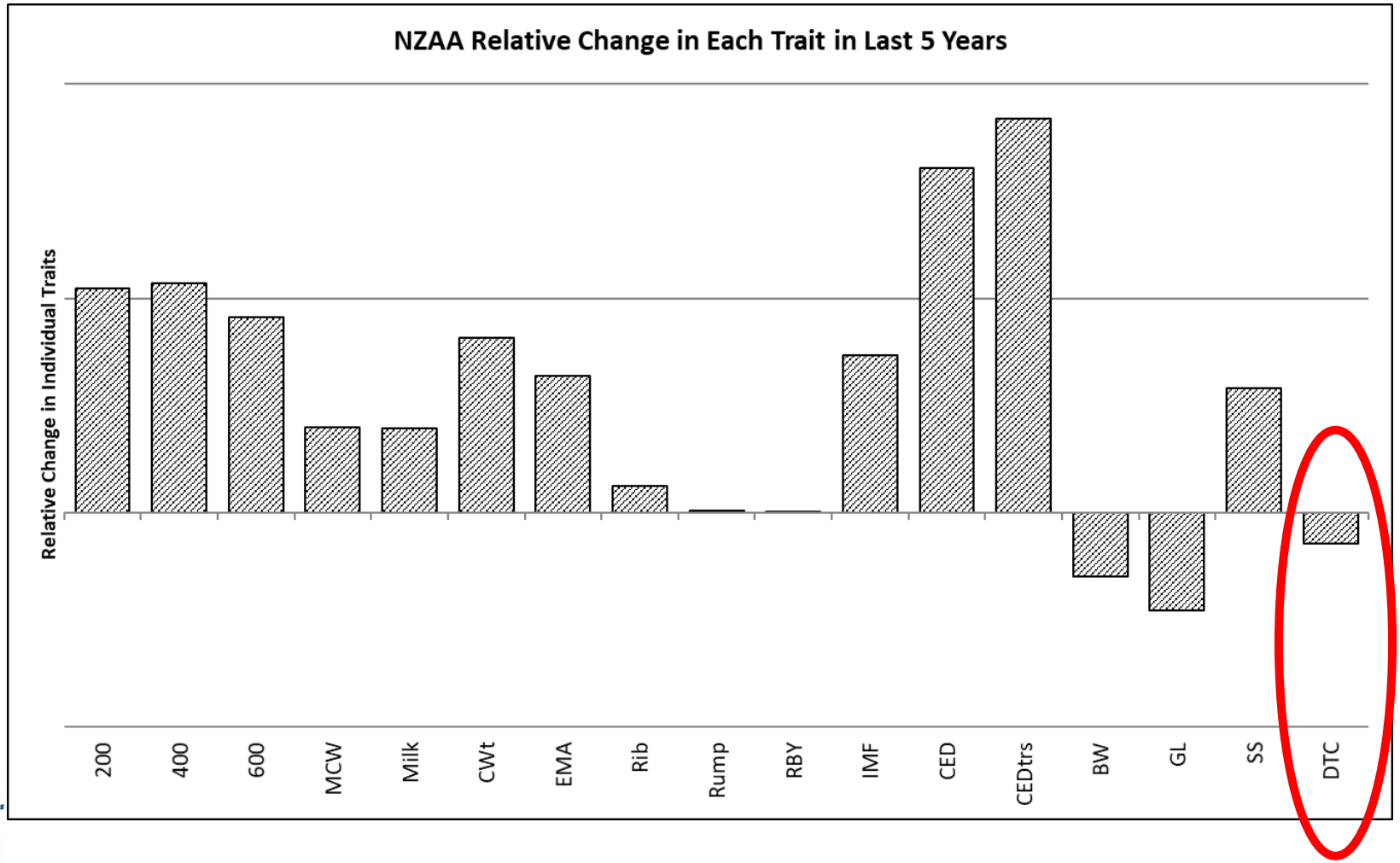


BreedObject Selection Indexes



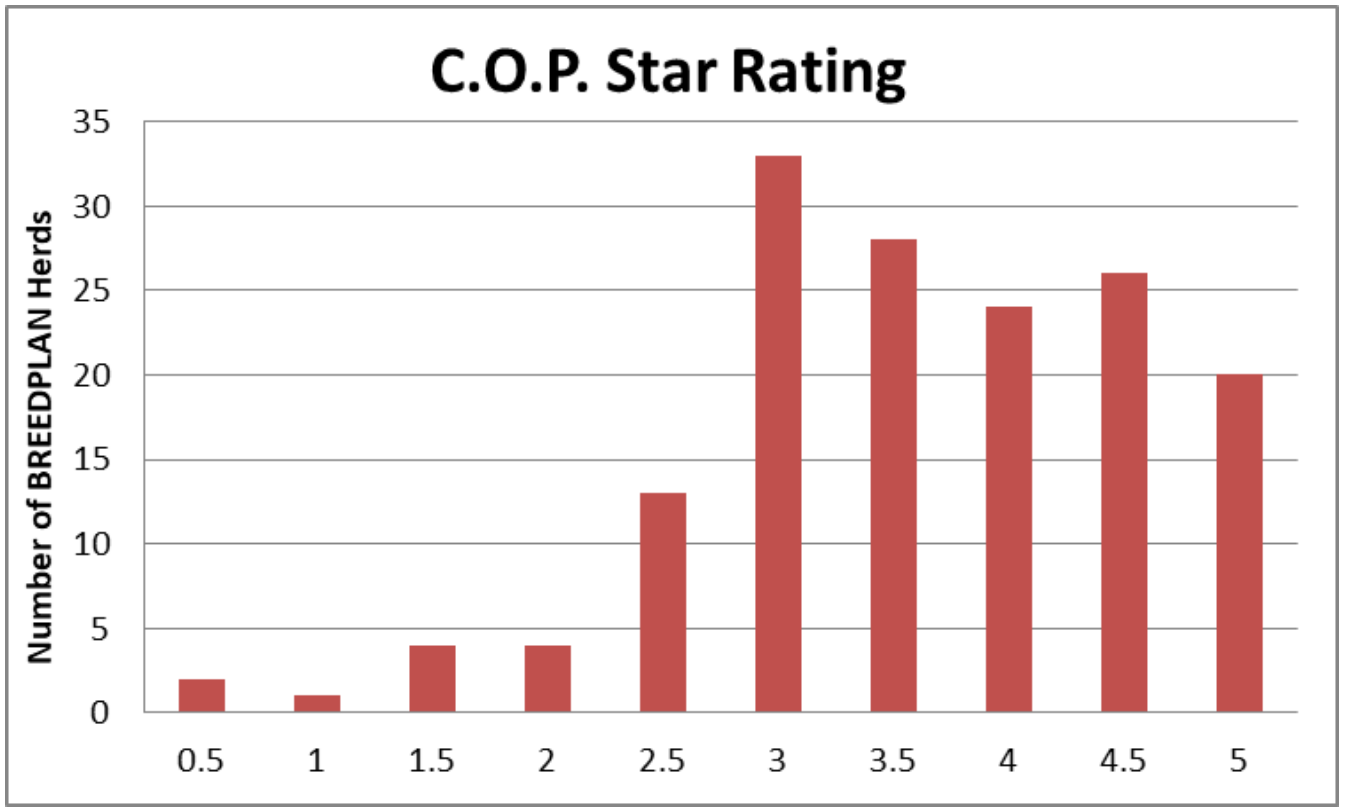


Effect of Performance Recording On Selection Response



Performance Recording Context

- Some herds will be better/worse than the average given in the breed C.O.P.:



Performance Recording Resources

Updated BREEDPLAN website released 23 June 2020

https://breedplan.une.edu.au

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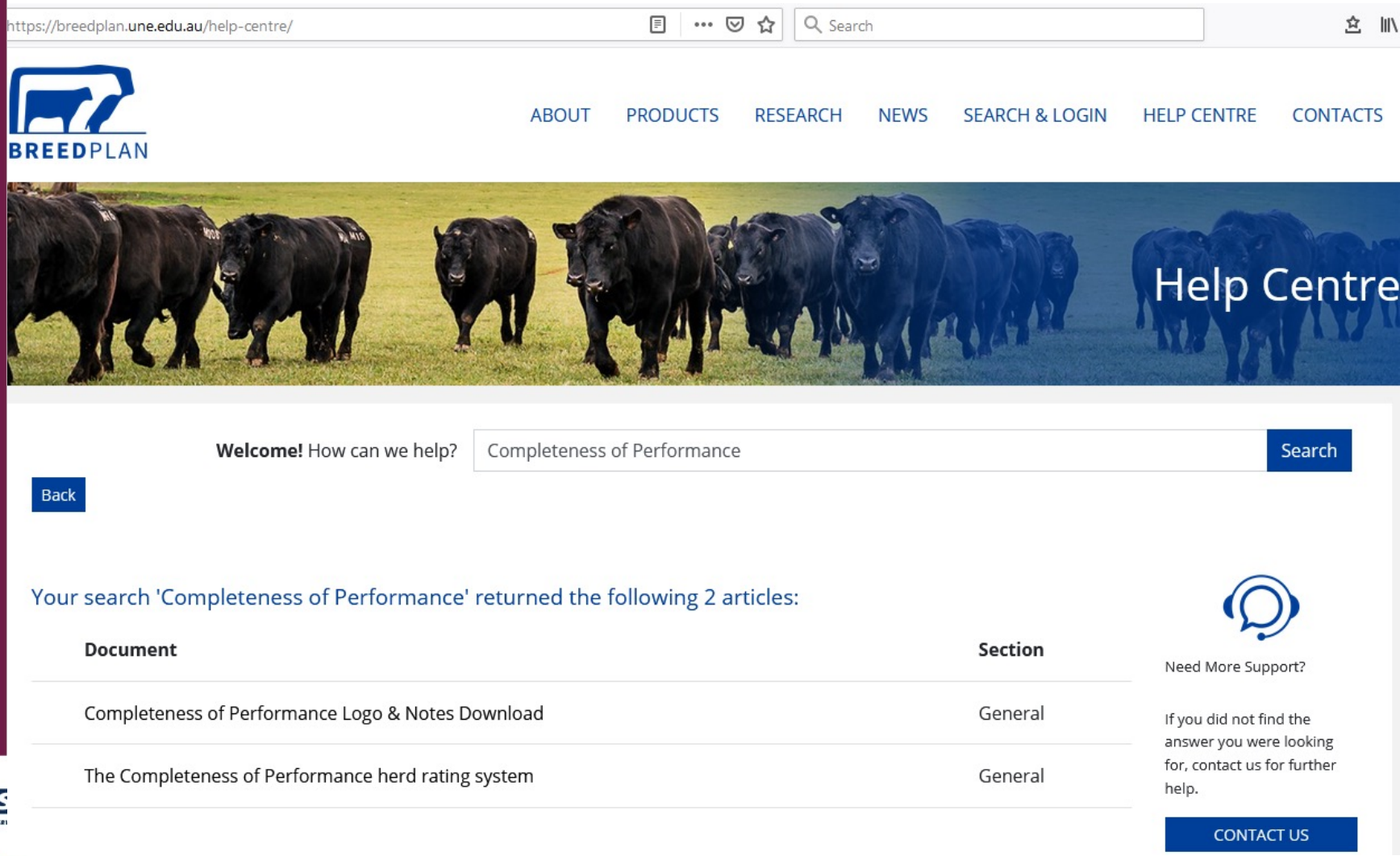
BREEDPLAN Help Centre



BREEDPLAN Tip Sheets

Understanding Scrotal Size EBVs

BREEDPLAN

TIP SHEET

The scrotal circumference of a bull provides an important indication of his genetic merit for several important fertility traits. Increased scrotal circumference is associated with earlier age at puberty, increased semen production and improved semen quality. There is also evidence that increased scrotal circumference is associated with improved female fertility and earlier age at puberty in a bull's daughters.

INTERPRETING SCROTAL SIZE EBVs

Scrotal Size EBVs provide an estimate of the genetic differences between animals in scrotal circumference at 400 days of age. Scrotal Size EBVs are expressed in centimetres (cm).

Larger, more positive, Scrotal Size EBVs are generally more favourable. For example, a bull with a Scrotal Size EBV of +4 cm would be expected to produce sons with larger testicles at yearling age and daughters that reach puberty earlier than the progeny of a bull with a Scrotal Size EBV of -4 cm.

For more information regarding Scrotal Size EBVs, please contact staff at your BREEDPLAN processing centre.

BREEDPLAN results are calculated by the Agricultural Business Research Institute using beef genetic evaluation analytical software developed by AGBU and Meat & Livestock Australia Limited.

For more information visit breedplan.une.edu.au

Understanding Gestation Length EBVs

BREEDPLAN

TIP SHEET

Gestation length can be defined as the period from the date of conception (i.e. when the female gets in calf) to when the subsequent calf is born. Shorter gestation length is generally associated with lighter birth weight, improved calving ease and improved re-breeding performance among dams. In addition, calves born with a shorter gestation length may be heavier at weaning due to more days of growth post-birth.

INTERPRETING GESTATION LENGTH EBVS

Gestation Length EBVs provide an estimate of genetic differences between animals in gestation length. Gestation Length EBVs are expressed in days.

Lower or more negative Gestation Length EBVs are considered to be more favourable. For example, a bull with a Gestation Length EBV of −2 days would be expected to produce calves that are born earlier, and more easily, than a bull with a Gestation Length EBV of +2 days.

For more information regarding Gestation Length EBVs, please contact staff at your BREEDPLAN processing centre.

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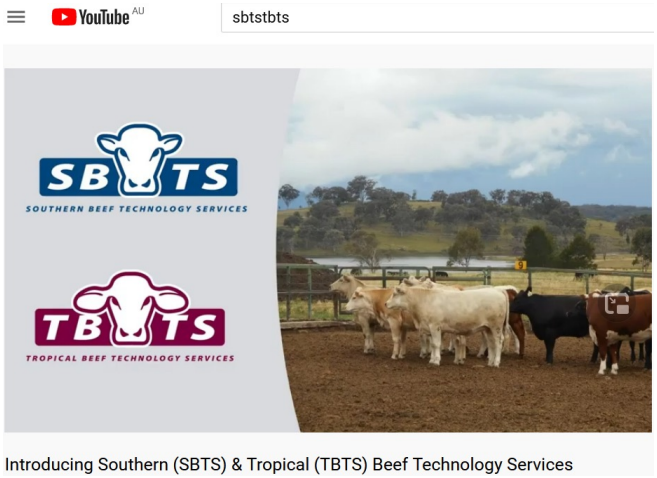
‘Recording for BREEDPLAN’ Short Videos

- 12 videos released and more coming soon
  - 2.20 min – 6.22 min in length
  - Available on the SBTS & TBTS YouTube channel and via the BREEDPLAN Help Centre

SBTS Resources

1. SBTS Website:
   - http://sbts.une.edu.au/

2. Social Media:
   - Facebook
     - SBTS & TBTS Facebook page
     - BREEDPLAN Discussion Group
   - Twitter
   - YouTube channel
     - Instructional videos



Introducing Southern (SBTS) & Tropical (TBTS) Beef Technology Services

Summary

- EBVs are no bull!
- Genetic Evaluations rely on data
- Record the traits that are important to you and/or your clients breeding programs
- Selection Index information can help identify which traits are important
- There are many resources available

Thank You And Any Questions