

## Repronomics - July 2020

Greetings everyone! This newsletter provides you with a snap-shot into the happenings of the project over the past 12 months. Firstly, the most important news is we have secured a new 5-year contract with MLA for continuation of the project. Thanks to DAF, NT DPI and UNE for teaming up again. The project will continue to build genomic reference populations for our tropical breeds, and will sample new genetics and expand into new recording and genetic technologies.



*The joy of early morning starts*

### **Current recording underway**

We have cohorts of new and exciting genetics in the recording pipeline (#17s, #18s, #19s drops) and weaning has been completed for the #20 cohort.



*Calf birth processing in action at Spyglass*

Unfortunately, the tough seasonal conditions at the end of last year has resulted in low conception rates and our AI pregnancies are lower than previous

years. However we will still expect to put about 800 project calves (#21s) on the ground at the end of the year.

At the 2 DAF stations (Brian Pastures and Spyglass) the #17s first-calf cows have just completed their recording for anoestrous interval and have weaned their first calf. The #18s have been mated and preg tested, and will calve at the end of the year. The #19 heifers continue to be regularly ovarian scanned since end of last year for age at puberty. The #20 weaner steers have been sold to satellite MLA MDC Steer BIN project and are growing-out at Taroom.

### **Project numbers continue to grow**

Our efforts are ensuring that the size of the genomic reference populations continues to grow for our 3 breeds. The first phase of the project generated more than 5,800 calves representing more than **320** sires from **119** different stud prefixes.

The project renewal will continue to record similar numbers at the DAF herds, and the Northern Territory - Douglas Daly herd will be expanded to include the NT Tropical Composite that will be performance recorded alongside the Brahman Selection herd.



*NT Composites bound for Douglas Daly*

Repronomics is now linked to a new NSW Multi-breed EBV project, headed up by NSW Ag. Brahmans are providing a link between the project by being included at the Grafton (N<sup>th</sup> coast NSW) site using AI semen on sires used in Repronomics and also some of our natural-mate bulls. This is a very similar

project to ours but involves temperate beef breeds (Angus, Hereford, Charolais, Wagyu, and Shorthorn).



**Off to Grafton to join the NSW project!**

**Project up in lights**

Our project was highlighted at several industry and scientific events in 2019 – including the Mundubbera MLA Beefup forum (& Narayen cattle displays), and Sheep Genetics, NBRUC and AAABG conferences.



**Narayen Beefup: project steers & heifers on display**

**Project data impacting BREEDPLAN**

Repronomics data (records & SNP genotypes) continuously feeds into the monthly Brahman single-step genomic BREEDPLAN evaluations. In 2019, project records were included into Santa Gertrudis BREEDPLAN, and in April 2020 the data has had a big impact on the Droughtmaster evaluation- with the inclusion of more than 3,000 fully-recorded animals and the turning on of new EBVs in that breed for GL, FT, SF, and most importantly, days to calving.

May 2020 Droughtmaster BREEDPLAN																	
	Gestation Length (days)	Birth Wt. (kg)	200 Day Wt. (kg)	400 Day Wt. (kg)	600 Day Wt. (kg)	Mat Cow Milk (kg)	Scrotal Size (cm)	Days to Calving (days)	Carcass Wt (kg)	Muscle Area (sq cm)	Rib Fat (mm)	Rump Fat (mm)	Retail Beef Yield (%)	IMF (%)	Shear Force (kgs)	Flight Time (secs)	
EBV	-4.8	-0.4	+20	+36	+50	+55	+11	+2.7	-6.0	+23	+5.9	-0.9	-0.7	+0.7	+1.1	+0.6	0.0
Acc	82%	93%	95%	95%	95%	89%	89%	71%	89%	82%	83%	81%	63%	80%	71%	85%	
Breed Avg. EBVs for 2018 Born Calves <a href="#">Click for Percentiles</a>																	
EBV	+0.0	+0.1	+12	+18	+24	+25	+4	+1.4	+0.3	+14	+0.8	-0.1	+0.0	+0.5	+0.1	+0.0	+0.0
Statistics: Number of Herds: 11, Progeny Analysed: 195, Scan Progeny: 36, Carcass Progeny: 9, Number of Dtrs: 60																	



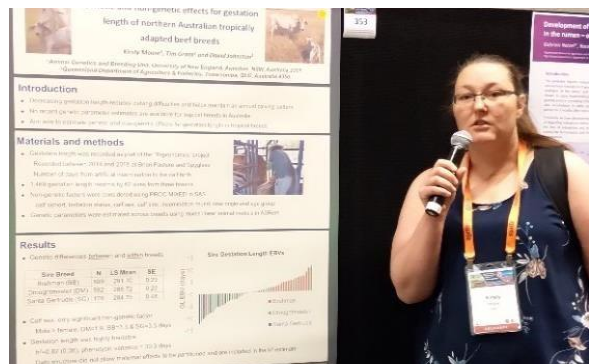
**New Droughtmaster EBVs: Project sire - Truvalle Hali**

In collaboration with AGBU’s BREEDPLAN R&D project, Santa has recently transitioned to a new single-step genomic evaluation and Droughtmaster will be next, and both will rely heavily on the Repronomics data. Finally, all 3 breeds are in the process of having their \$EBVs reviewed and updated.

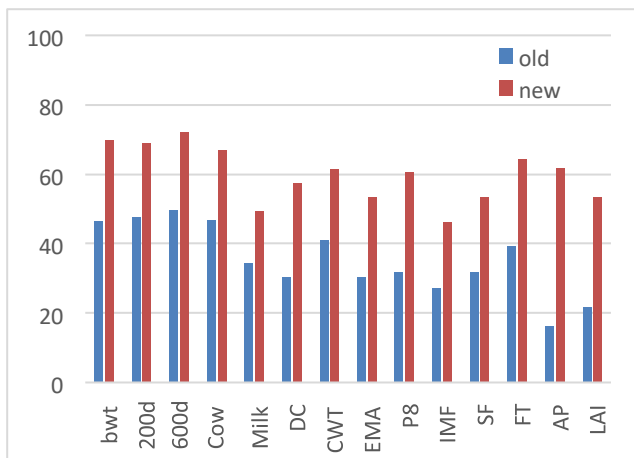
**Project data increasing EBV accuracies**

The intensive recording and SNP genotyping from the project is resulting in increased EBVs accuracies of project animals and their relatives. And through the implementation of the single-step genomic evaluations our reference populations are increasing the accuracies of large numbers of animals in the evaluation, especially young genotyped animals in each of the breeds.

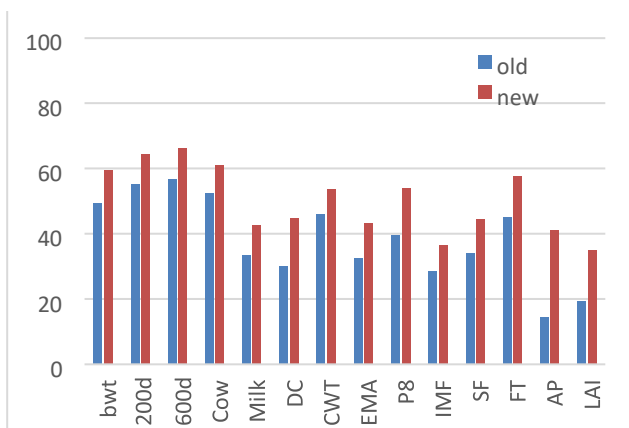
Presented below are graphs of Brahman BREEDPLAN EBV accuracies before (old) and after implementation of Repronomics data and single-step (new).



**Kirsty Moore presents latest results at NBRUC**



**DAF Project Brahman BREEDPLAN accuracies**



**Accuracies of #16/17 genotyped Brahman**

**Project gathering**

Unfortunately, COVID has put a halt to plans for a get-together to share the latest results and discuss plans for the future. As soon as we get clarity on allowed gatherings we will get back to you. It's important we provide updates as things are moving quickly in the fields of genetic evaluation and genomics. Also we want to provide you with the opportunity for interaction and input.

**Next generation genetics**

The latest cohorts contain a range of new genetics in each of the 3 breeds, including new AI sires and raft of natural-mate bulls purchased over past few years. Included are the #20 progeny on these 3 emerging sires. We are now on the hunt for new genetics in each of the breeds, will be looking to sample the genetics currently in use, to drive increased future selection accuracies.



**Glenlands D Watchman**



**NCC Justified**



**Rosevale Maverick M102**

**What's coming next**

We are in the process of launching a new project website that will house the latest information on the project including – trait fact sheets and project “sire pin-up” pages that will present latest research EBVs for several new traits.

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