



SOUTH AFRICA | NAMIBIA | ZIMBABWE

# LRF-TS news



## The LRF and BREEDPLAN Services in Southern Africa

The Livestock Registering Federation (LRF) is an umbrella body with the main purpose to unite, promote and protect its members acting as Registering Authorities in Southern Africa. Currently, eight South African beef breed societies, 39 Namibian breed societies under the NBSA, and 18 breed societies in Zimbabwe under ZHB, are affiliated with the LRF. This amounts to about 1700 individual stud breeders.

The LRF Council consists of representatives of each of the affiliated breed societies in South Africa, as well as representatives from the Namibian Stud Breeders Association (NSBA) and the Zimbabwe Herd Book (ZHB). We are fortunate to have Mr Mecki Schneider (Brahman and Simmentaler breeder in Namibia) as the Chairman of the LRF for 2021 and Mr Johan Styger (Simmentaler breeder in South Africa) as the Vice-chairman.

The LRF office currently consist of four personnel members. Dr Michael Bradfield as Chief Executive Officer, Mrs. Izaan du Plooy as the Technical Officer, Mrs. Jeanine Labuschagne as the HerdMASTER support Officer and Mrs. Jorita van der Elst as the Financial Officer. Each of which has a unique roll to play within the LRF.

All the LRF societies make use of ABRI/BREEDPLAN services for keeping record of their animals (pedigree, performance, and genomic data) as well as their member information. BREEDPLAN also provide the societies with a monthly genetic evaluation. For all the BREEDPLAN services rendered to the societies, the LRF office provides technical support to the societies and its members. This includes:

- Training/support to society staff on the use of ILR2, the registry used for keeping animal and member details.
- Technical support to staff on queries received from members.
- Training of members on the use and understanding of breeding values, performance recording, genomics, etc.



The LRF Office, L-R: Jorita van der Elst, Izaan du Plooy, Michael Bradfield, Janine Labuschagne

As one of the LRF's corporate goals, training and equipping LRF society members with all the required genetic and genomic information, are one of the most important functions of the LRF. Dr Michael Bradfield and Mrs. Izaan du Plooy are mostly responsible for these activities, but they often include the expertise of others. The LRF uses various platforms to distribute information to its members. These include for example the following:

- Monthly LRF/BREEDPLAN newsletters
- Society Journal articles
- Landbouweekblad, Veeplaas and Agriforum (Namibia) articles



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- Social media posts (Facebook, Twitter, Instagram, etc.)
- The annual Diploma Course in Animal Breeding and Genomics in collaboration with the University of the Free State
- The annual LRF Stockman School (13 – 15 October 2021)
- BREEDPLAN and HerdMASTER courses and information sessions
- Information sessions at the Societies' Annual General Meetings

The LRF annually award breeders for their devotion and hard work as stud breeders, with several awards announced at the LRF Stockman School. Last year Mr André van der Merwe, Brangus breeder, was awarded as the Molatek Landbouweekblad/Breedplan Stud Breeder of the Year for 2020.

As performance recording is the cornerstone of any genetic evaluation, the LRF encourages stud and commercial breeders to make use of a herd management software program such as HerdMASTER. HerdMASTER the world leading herd management software program is also one of the services that the LRF offers to its clients. Mrs. Labuschagne is the LRF's fulltime HerdMASTER support officer. The use of a herd management program allows breeders to effortlessly keep record and submit performance data to their society, which is a critical component of a breed society's genetic evaluation.

We trust you enjoy this inaugural Newsletter, done in collaboration with ABRI and would also like to thank Anne Cooke for agreeing to compile the newsletter.

BY IZAAN DU PLOOY (LRF TECHNICAL OFFICER)

## NEWS FROM ZIMBABWE - ZIMBABWE HERD BOOK

The Zimbabwe Herd Book (ZHB) was established in 1981 by an Act of Parliament to establish an autonomous Herd Book organisation within Zimbabwe, and sanctioned by the Statute, to encourage, improve and maintain the breeding and purity of purebred farm livestock and keep and publish records in connection with the registration of such livestock.

Membership of ZHB is represented by one sheep, one goat and 16 cattle breeds from 172 stud breeders and is chaired by John Crawford (Portelet Brahms). Anne Cooke (Zimbo Tulis) is the Vice Chairperson.

Dr Mario Beffa is the General Manager and Mrs Mildret Zenda, Mrs Florence Mbewe and Tichafara Mugari are the Breeder Liaison Officers. Dave Berry manages the finances and Thomas Kucherera is the Office Assistant.



L-R: Mario Beffa, Tichafara Mugari, Mildret Zenda, Florence Mbewe, Dave Berry, Thomas Kucherera

## NEWS FROM NAMIBIA - THE NAMIBIAN STUD BREEDERS' ASSOCIATION (NSBA)



L-R: Maudi Esterhuizen, Mientjie v.d. Merwe, Jacque Els, Danea Hayward, Margaret Hayward.

The NSBA was established as a Livestock Registration Authority, under the Livestock Improvement Act, Act 25 of 1977, which was still applicable in Namibia, on the 23 January 1992, under the signature of Mr. Gert Hanekom, the then Minister of Agriculture, Water and Forestry.

From a humble beginning of 202 breeders from 11 Breeders' Societies owning 25 016 animals, it has grown to 574 breeders from 39 Breeders' Societies owning approximately 60 000 animals. The severe drought over the past number of years had reduced the number of stud and commercial animals drastically. The Livestock Industry is currently in a restocking phase.

The first Chairman of the NSBA Executive Committee was Mr. Jan de Wet, who was succeeded by the current Chairman, Mr. Ryno van der Merwe during 2000. Mr. Berndt von Kunow was the first Manager of the NSBA, succeeded by Mr Tobie le Roux in 2000, and Mr. Jacque Els has been the Manager since July 2010.

The NSBA is responsible for the registration of the following breeds:

Cattle: Afrikaner, Angus, African Huegenot, Beefmaster, Boran, Brahman, Brangus, Braunvieh, Charolais, Charbay (Dormant), Dexter, Droughtmaster, Gelbvieh (Dormant), Hereford, Limousin, Nguni, Pinzgauer (Dormant),

Romagnola, Santa Gertrudis, South Devon, Sussex, Tuli, Wagyu

Goats: Boer goat (including Kalahari Red & Savanna, Indigenous goats)

Sheep: Damara, Dorper, Meatmaster, Swakara, Van Rooy

Horses: Appaloosa, Arab, Miniture Horses, Percheron, Pinto, Warmblood

Dogs: Boerboel

Currently 14 of the cattle breeds receive monthly EBV Runs, The Brahman, Santa and Limousin receive international runs in collaboration with South Africa. The Hereford and Limousin also form part of a larger international analysis. The Brahman has been part of an analysis that included Namibia, South Africa, Australia and USA.

Since January 2015 the NSBA has been using the ILR2 system. During 2019 the Brahman Database was expanded to include the genomics module, which allows for the storage of all genotype information.

The Brahman, Braunvieh and Santa Gertrudis Societies participated in Phase I of the BGP Project. More than 1 064 Brahman bulls, and 10 Braunvieh bulls, have complete the NFI Growth Test at the GenTecSol station.



## NEWS FROM SOUTH AFRICA

It is a privilege for the LRF office to provide the News for this "first of its kind" newsletter that incorporates news from Australia & New Zealand and Southern African News. A big thanks to Anne Cooke for compiling the Southern African news and to Fara Williams for editing it into the SBTS news. It is a win-win for all concerned.

### South Africa becomes a net exporter of beef

Over the last five years South Africa has become a net importer of beef with over 4% of our meat now being exported, to mainly China and the Middle East. Red Meat exports has become a valuable foreign currency earner as is one of the main reasons that the weaner and carcass price is at record levels. Herd rebuilding after the droughts has also significantly impacted on the carcass and weaner price. This increase in price has significantly impacted the Seedstock/Stud industry and we are experiencing record prices for breeding material. Our animal health status remains a big risk however and another outbreak of F&M immediately lowers the weaner price by at least R7-R10 per/kg.

### Attending producer days in Southern Africa

The LRF looks forward to participate at the Braford producer day on the 2nd of June in Vryburg. Soon thereafter we hold our board meeting on the 9th of June at the new office in Highveld park. The LRF South African team will

then fly to Namibia to attend the Gen-tec-Sol producer day on feed efficiency in Hochveld. They will be joined by Lisa Rumsfeld, the new proprietor of Growsafe systems (now called Vytelle). Meetings will also be held with Simbra, Simmentaler and Wagyu members.

### Real time ultrasound accreditation course

A Real time ultrasound accreditation course was also held at the Sernick feedlot the week of the 17th May. The course was given by Petrus Maritz from the Namibian Meat Board. A total of 6 attendees attend the course using the newly purchased Lab one vet machine.

### Modular courses

Zoom has made it easy for the Societies to give several modular courses to their members. It is also easy to include some special international guests into these courses. The Brahman, under the auspices of the Limpopo club, held their first course the 20th May and another eight module's will be held monthly. The Wagyu will also hold eight courses and the fourth course will be held on the 6th of August. The courses are open to all members.

Breed Societies are welcome to contact the LRF office for "specialised" modular course that fit the needs of their respective breeds.



The LRF visited ABRI-Breedplan Australia in 2015. This picture was taken at Toowoomba feedtest station outside Armidale.

The tour was considered a seminal moment for the development of the LRF in Southern Africa.

L-R: Top; Jurgen Hendriks (ARC), Kobus Bester (Simbra), Mecki Schneider (Brahman Namibia), Johan Styger (Simmentaler), Michael Bradfield (CEO), Johan Malan (deceased Santa Gertrudis), John Rafferty (Brangus), Christopher Sparks (LRF Chairman), Prof Frikkie Naser (UFS), Thys Meyer (Simbra), Sietze Smit (Brahman CEO), Christian Duff (Australian Angus).

Below; Derick le Roux (Limousin), Gert Nienaber (Simmentaler).



**Critical Success  
Factors for a Profitable  
Livestock Value Chain**

**Hybrid Event 50-100  
Delegates + Virtual**

Every year the school & congress choose new themes to address current and future scenarios. This year's themes are:

- Exports and the value chain that starts with the producer;
- How to be effective with your livestock farming;
- Utilising and understanding new technology.

This year's speakers are all leaders in the industry as well as in their respective fields





# How Do Genetic Evaluations Handle Large Numbers of Genotypes

Considerable computing power and time is required to run each BREEDPLAN analysis, particularly for the larger runs and/or those that include genomic information. To accurately include genomic information into a genetic evaluation requires multiple thousands of animals with both genotypic and performance data (the reference population).

Of the data required, the genomic test data takes up the largest amount of space, with each 50K genomic test taking up approximately 3.2 megabytes, with larger tests now routinely offered by most gene test providers. Thus for an analysis that includes 5000 50K genotypes there is 16 gigabytes (GB) of genotypes before considering the pedigree and performance data, or the software required for the analysis. To put this in perspective, the average laptop RAM currently advertised on a prominent retailer's website is 11 GB.

Compounding this issue is a limitation of the previously available methods of incorporating genomic information into genetic evaluations which had an upper limit of the same number of animals with genotypes as there are markers on the SNP chip (i.e a maximum of 50,000 animals with 50K SNP chips). While this limit was not breached in any BREEDPLAN analysis, preparations had to be made for when it would occur in the future as the number of genotypes submitted continues to increase within each analysis. This issue is not exclusive to BREEDPLAN, rather an industry/world-wide problem, regardless of service provider. This article will discuss different approaches to overcome this issue.

## Methods of incorporating genotypes into genetic evaluations

There are a number of different ways in which genetic evaluations such as BREEDPLAN can handle large amounts of genomic information within their analyses. Some genetic evaluation services compensate for the extreme size of the datasets by (a) breaking their analyses down into multiple subsets, (b) only using a small subset of the available SNP markers and/or (c) prioritising a subset of animals from which the genomic information is used in specific critical steps in the evaluation. None of these approaches are ideal.

By analysing trait groups in different analyses (e.g. weights in one, carcase in another etc) before presenting them as the result of a single analysis, the computational requirements are greatly reduced. However, this fails to make use of all of the available genetic relationships that exist between traits. The BREEDPLAN analysis has committed to maintaining the majority of the traits



in a single analysis (exceptions are calving ease and docility where available) as this allows data on one trait to inform others. The most extreme example of traits informing others is where a trait is not recorded but is able to have an EBV reported based on known relations with other traits, for example the reporting of the Retail Beef Yield EBV from the recording of carcase scan traits.

Another method of reducing the computational requirements is to utilise a subset of the available SNP markers (genomic data) in the analysis rather than all of the information that is available. As an example, an evaluation might use as few as 2000 of the SNPs available on the 50K or 100K SNP chips, these being SNPs expected to account for some of the genetic variation present in the traits of importance in the population. While this keeps things simple to implement, it also means most of the genomic information available is not used in the evaluation. Other providers have chosen to prioritise which animals have the genomic information used in all parts of their analysis and which animals have their genotype used in only some stages of the analysis. This can mean that the animals that have the full influence of their genomic data included in the calculation

of their breeding values can change between runs and thus individual animals may not receive the full benefit of the genomic tests that the breeders have paid for.

### The Solution: GTBLUP

To overcome the computational requirement issues and avoid the drawbacks identified in the methodology discussed in the previous section, BREEDPLAN has invested in upgrading its computer systems and a new genetic evaluation methodology called GTBLUP. With GTBLUP, BREEDPLAN is believed to be the first multi trait commercial beef genetic evaluation that can make use of all available genotypes in a multi country genetic evaluation.

The implementation of GTBLUP was made possible by developments at the Animal Genetics and Breeding Unit (AGBU) led by Principal Scientist Dr. Vinzent Boerner. In testing, AGBU found that the GTBLUP methodology was able to process a

test dataset including ~400,000 genotypes, with 50K SNPs per genotype. The processing times and computational costs for this test case were lower using GTBLUP than for other single step genomic approaches. As a consequence, GTBLUP gives BREEDPLAN the capability of keeping all the SNPs and all the genotyped animals in the analysis for even the largest of its clients and will be able to continue doing so in the future regardless of the growth in the population.

ABRI's managing director, Hugh Nivison, said that ABRI's decision to embrace GTBLUP, is a conscious effort to maintain position at the forefront of providers for genetic evaluations.

"This is an exciting opportunity for the inclusion of substantial amounts of genomic data in BREEDPLAN multi-trait evaluations. This unlimited capacity provides BREEDPLAN users with an enormous amount of flexibility to submit as much genomic data as they want, without limitation" said Mr Nivison.

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## Getting on Top of Our Data Collection

As we move into the age of massive amounts of information and new technologies, which can be overwhelming, we must not lose sight of the fact that we need to maintain a standard to make use of that information.

We can waste vast amounts of time collecting unnecessary data or collecting it incorrectly, rendering it useless.

Selections of our stud animals should be a combination, of a wealth of a good stockman's eye and experience on the ground combined with accurate scientific information.

That accurate scientific information is in our hands. If we collect it timeously, accurately, in the right contemporary groups and submit it correctly it can take our stud to a whole new level. If done badly at best, we plod along with average returns not realising our potential and at worst breed ourselves into a disaster.

Here is some advice from your service providers.

1. Sit down with the designated member of your breed society/LRF technical adviser (see last page) and put a concise accurate plan in place of what your aims are, what you need to collect, when you must collect it, how to do that and finish with submissions.
2. Take that back on farm and put a system in place for yourself and your staff - follow through with your plan.
3. Assess at year end how you have done and what works for you. It is quite a reach sometimes to bridge the gap between data collected, as the scientists would like it, and the ability to

achieve that on the ground. When you encounter problems chat with recommended fellow breeders and your service provider for alternate ways of doing things, while still maintaining the standard – don't find yourself isolated and frustrated, there is help out there you just have to look for it or ask. Science and technology are moving at such a fast past even the best of us need that assistance.





# The DNA Pipeline

Three projects for 2021 that the LRF is excited about is the implementation of a DNA pipeline for the different LRF societies, the implementation of ILROnline and the delivering of RTU scanning services to the industry in South Africa.

ILROnline is ABRI/BREEDPLAN's newest software program for societies that will allow breeders to register animals, transfer animals, enter performance data, manage their inventories, pay for outstanding accounts, etc. on the breed society's database. One of the advantages of ILROnline is that breeders will know exactly which animals are always registered to their membership, which animals are pending registration and know exactly what performance data is recorded for each of their animals.

With the implementation of the DNA module by ABRI/BREEDPLAN in 2019, the society can now provide DNA services to its members. Breeders are now able to work through the society to have their animals' DNA tests done, either for parentage and/or the identification of genetic defects or traits. It will remain the breeder's choice at which laboratory the tests should be done. The pipeline is in place for the following laboratories: Unistel, ZooOmics, as well as Neogen (Scotland).

The society will thus be able to provide a one-stop service to its members. The provision of DNA services by societies is a trend that can be seen in most of the leading cattle societies worldwide. Requesting DNA tests through the society has several benefits for the producer. For example:

1. The duplication of DNA tests is eliminated as the animals' identification numbers are checked by the society and the correct identification numbers as registered on the society's database are sent to the laboratory.

2. There is an opportunity for the society to collectively negotiate the price of tests at the different laboratories.
3. The turnaround times by the laboratories can potentially be shortened, as:

- Requests are sent electronically to the laboratory and imported into their system electronically.

- Samples are checked at the society to ensure that:

- > the identification numbers have been written on the samples correctly.
- > there is enough DNA sample available to do DNA extraction on.

- DNA results are returned to the society electronically and in the correct format to be imported into the society's system seamlessly.

4. Ease the registration process as the test results are sent directly to the society.

5. DNA samples can be stored at the society for reuse.

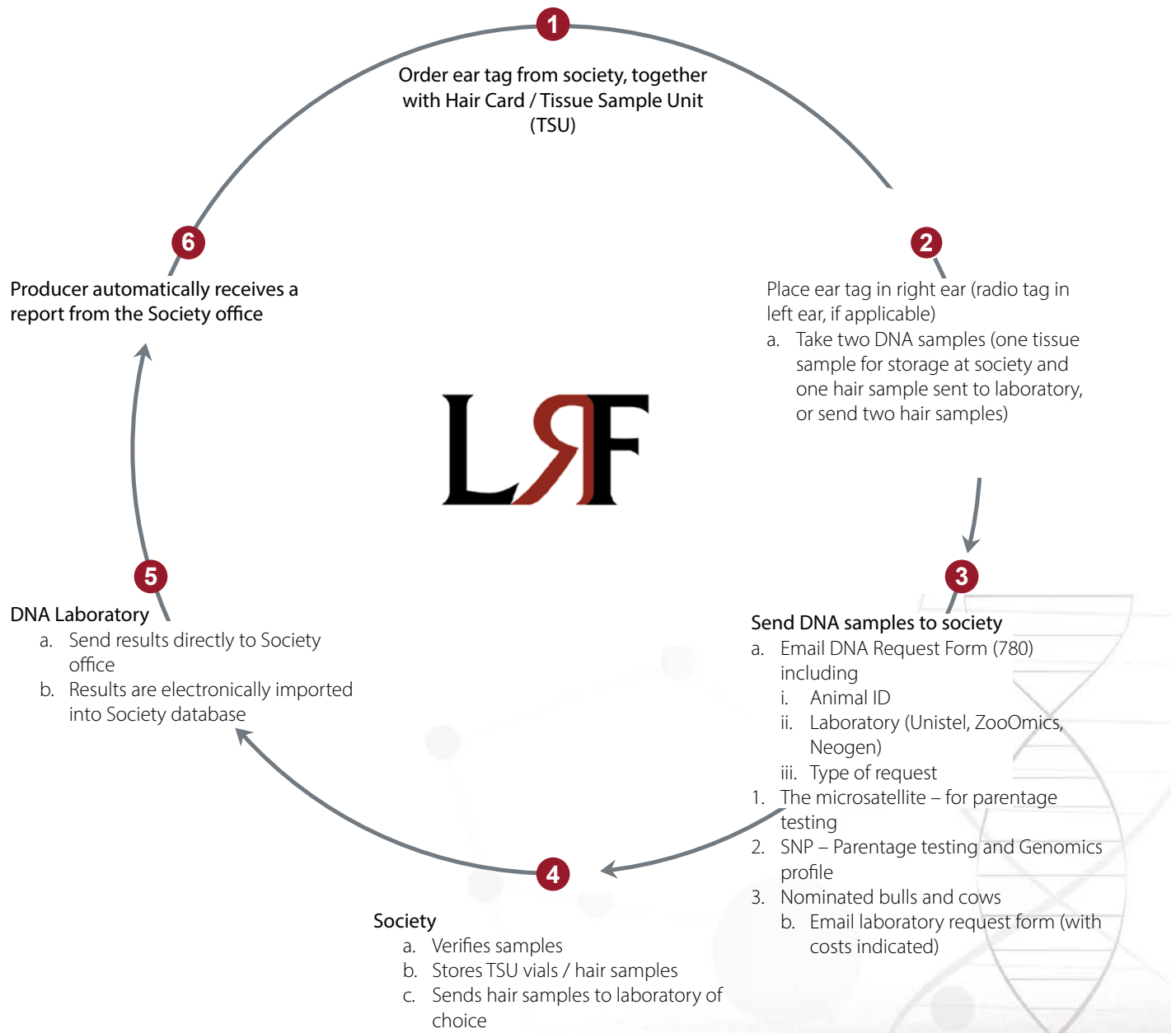
Apart from all the benefits that the implementation of a DNA pipeline has for the breeders, it can also serve as a good source of income for the society. The society can also build a biobank for the breed that can in future be used for research, building a genomic reference population, etc. For the society, receiving electronic results (in the correct format) is also beneficial as it can be import into the system effortlessly and without the occurrence of human errors.

**BY IZAAN DU PLOOY (LRF TECHNICAL OFFICER)**



Tuli Calves of Zimbabwe





- ✓ Takes the administrative burden out of DNA testing and work directly with your Society.
- ✓ Reduce the possible duplication of animal IDs between Society and laboratory.
- ✓ Facilitates the registration process.
- ✓ Collective price bargaining.
- ✓ Faster turnaround time due to less mistakes.
- ✓ Samples stored at Society office for reuse.

# LRF

## DNA Pipeline

# A Seedstock Producer's Perspective On: Breeding for Fertility

Breeding for improved fertility has been a key focus for Lyn and Brett Coombe, the owners of Roxborough Brahman stud based in the Moura district, Queensland. TBTS Technical Officer, Paul Williams, recently caught up with Lyn to discuss how she and Brett have utilised BREEDPLAN to improve the fertility of their breeding herd.

## **Q: Could you tell us a little about the Roxborough Brahman herd?**

Roxborough Brahman Stud was started back in 1977 by Brett and his three brothers at the family property Roxborough north of Rockhampton. Now based in Moura, still in the Central QLD area, we run and calve out 200 registered cows and market between 50 – 70 grassfed bulls per year.

## **Q: What are the key traits that you focus on in your herd?**

Adaptability, fertility, moderate growth & docility. With our grazing management focussed on optimising stocking rates, the ability to maintain body condition will be very important going forward.

## **Q: What was it that prompted you to focus more on the fertility of your herd?**

Within our herd we had some females who were able to get in calf every year regardless of the season but we were also

sending heifers to the meat works who couldn't deliver a calf by the age of three and cows that weren't rebreeding while lactating or raising a calf annually.

We started to put pressure on our females to deliver along these parameters but were using bulls not produced under the same or similar management program. We were seeing the negative effects of using bulls selected purely on growth with their daughters being later maturing, high maintenance type females unable to produce a calf by three and rebreed while lactating. This was backed up by the research being done in the northern beef industry.

## **Q: Which fertility traits are you collecting for BREEDPLAN?**

Scrotal measurements are collected at 400 days on the bulls and every year we submit bull in & bull out dates for DTC. We also weigh cows at weaning each year to monitor the mature cow weight of the herd which we think is an integral part of the profitability equation.

We are also part of the "Commercial cow fertility" project supported by MLA Donor Company in conjunction with CSIRO looking at more DNA markers for female fertility and have been part of the Repronomics project run by AGBU which is also an MLA Donor Company project concentrating on cow fertility in the North.



Lyn and Brett Coombe, Roxborough Brahman stud, have used BREEDPLAN EBVs as a tool to improve the fertility of their breeding herd.



## Q: Do you have any additional herd management practices that you utilise to help identify more fertile animals?

We use multiple sire mating to avoid failings of single sires, and all calves are sire verified through DNA. Our older cows have a 90 day joining period which traditionally started 1 December each year (normal practice in our part of Queensland). Over the past four years, we have crept the 90 day joining forward by two weeks each year. Our older cows are now joined from 1 October. This means the cows calve out from the middle of July, and this puts them under pressure nutritionally because this is well before the season ever breaks.

We now join yearling heifers and have done so for the last seven years. The yearling heifers have a shorter 45 day mating period from November 1 til December 12, and are joined regardless of live weight (this year they averaged 191 kg into mating). This challenges the heifers, and while success has been variable due to joining weight and season, it amazes us that it is not necessarily the heaviest that gets in calf.

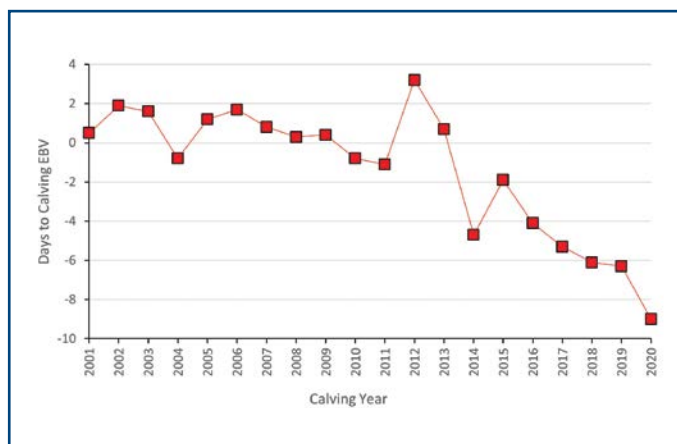
Of our Brahman females that calf as two year olds, we allow only one miss in the next three years. Heifers that don't calve until 3 years old are never allowed to miss and, as with any other empties, these are culled. We value longevity in our herd. If a cow has been around this long with that kind of production record there are many characteristics where the boxes are ticked e.g. structural correctness, udders etc. The oldest cows in our herd who have calved every year without a miss, regardless of what they look like, are the very best cows in the herd in our opinion.

## Q: What would you say to those that struggle to collect Days to Calving information in their own herds?

Most people keep diaries or have a calendar or whiteboard on the wall therefore it's very easy to record bull in & bull out dates. We find it doesn't take much time or effort to record this information. Everyone has got fertile females in their herd, but we need to be able to identify them and in doing so identify those genetics producing the most profitable animals by using the DTC EBV.

## Q: Has there been a noticeable response to the collection of fertility data and use of Fertility EBVs in the Roxborough herd?

Even though we have been putting more pressure on our breeding herd by joining earlier and calving further ahead of the wet season break, we have noticed that our pregnancy rates have improved. Around seven years ago we were averaging a pregnancy rate of ~80%, and in the last three years, have averaged ~90%. This is despite the last three years being well below average rainfall. We credit the improvement in our pregnancy rates to the increased re-breed rates of our first calf heifers and second calf cows. We are continually surprised at how many of the two year old calvers



The Roxborough Brahman Days to Calving (DTC) genetic trend for the 2001 to 2020 calving years. Rapid progress has been made since 2012, with the 2020 calving drop averaging -9 (Top 25% of the breed).

are pregnant following their second and third matings.

We have also made genetic progress with the herd, and this is reflected in our Fertility EBV trends. Our trend for DTC was slowly improving until 2012, where a single bull pushed us in the wrong direction. Since then, following the introduction of Alf Collins Snr genetics (Belah Valley), we have made rapid progress in DTC. Our 2020 calving drop averaged -9 for DTC EBV (Top 25% of the breed). We have also made progress for Scrotal Size, and this reflects our observation that our bulls are maturing at a younger age.

Interestingly our mature cow weight (MCW) has become lower which has in turn allowed us to run more cows and produce more kgs per hectare than previously. Those cows with the lower MCWs can maintain body condition and seem to be able to rebreed quicker regardless of the season.

## Q: Do you have any other advice for those that are looking to improve fertility in their herds?

Within all herds, there are cows that calve every year on time and deliver a weaner despite the seasonal conditions. Everyone has them. As previously mentioned, the management program put in place by breeders is equally as important as BREEDPLAN EBVs. We get rid of the free loaders - the cows that are lazy and don't deliver a calf on time every year.

If a strict culling program is implemented with this management strategy in place then the most fertile females will select themselves. By recording each cow's performance and collecting this information it is then on hand for bull buyers to access.

I see our role as seedstock producers to combine all of the objective measurements, to look at the temperament, market suitability and the whole package. The colour and shape of the package may not be perfect to some peoples' eyes, but for us if we tick most of the boxes, produce more kilograms per hectare and provide the industry with well described, predictable, profitable genetics then we are doing our job. You can't manage what you don't measure!!

# LRF Competition Winners 2020

## LANDBOUWEEKBLAD/BREEDPLAN STUD PRODUCER OF THE YEAR

In 2020 Mr. André van der Merwe from the Wouman Brangus stud, Reitz, was crowned as the Landbouweekblad/BREEDPLAN Stud Producer of the Year.

He built up one of the top Brangus herds in the country within eighteen years. Not only does the herd receive full marks for completeness of performance record keeping, but was also named the top Brangus herd in South Africa by the Brangus Society in 2014, 2015, 2016, 2017 and 2018.

The average inter calving period of the herd is 370 days, with an average weaning percentage of 97.3. Young bulls are subjected to field bull tests before being used or sold.

Van der Merwe sold three bulls to stud and commercial breeders last year. He serves on the Brangus Council and is responsible for genomics.



## COW GROUP OF THE YEAR

The value of the genetics of a cow herd is often underestimated. The LRF annually gives recognition to stud breeders who realize the value of a good cow herd.

The traits taken into account are days to calving (if applicable), age at first calving, inter-calving period and economic selection indices available for the specific breed. For the breeds for which indices are not available, a similar value is determined by linking economic weights to their breeding values.

### The finalists of 2020 were:

#### Brangus:

Wouman stud, André van der Merwe, Reitz.

#### Braford:

Rodewald Farm, Ralf Rodewald, Piet Retief.

#### Brahman:

RAT stud, Riaan Theron, Koppies.

#### Limousin:

Delan Stud, John and Tracey Devonport, Vaaldam.

#### Santa Gertrudus:

Rensbou Stud, Dail van Rensburg, Delareyville.

#### Simbra:

KH Heimstadt stud, Karl-Heinz and Sigi Heimstadt, Gobabis, Namibia.

#### Simmentaler:

Tendele Stud, Willem Botha, Senekal.

## PROVEN BULL OF THE YEAR

Genetic progress is one of the most important criteria for a breed to determine progress. The genetic progress made depends largely on the bulls used. Encouraging genetic progress is one of the goals of the LRF. That is why Breedplan's Proven Bull of the Year is nominated annually for all the breeds that are members of the LRF.

### The finalists for 2020 were:

#### Brangus:

UN 11-11, Kosie and Rene Smith, Smith Stud, Kimberley.

#### Braford:

M 10-62, Ralf Rodewald, Rodewald farm, Piet Retief.

#### Brahman:

HBS 09-36, Sydney Hunt, Hunt Stud, Warrenton.

#### Limousin:

LR 15-56, A.J. du Toit, La Rhone Stud, Tulbach.

#### Santa Gertrudus:

VV 10-0040, Tina de Jager, Valley-Venture stud, Vryburg.

#### Simbra:

HB 08-57B, Thorsten Scholz, Rubeus Stud, Otjiwarongo, Namibia.

#### Simmentaler:

PN 11-357, Four-Feet Stud, E.L. Barry, Dalton.

*Adopted from Landbouweekblad article, "Toptelers bekroon by LRF-Veeskool", 8 October 2020*



# BREEDPLAN Top Tips: Understanding Milk EBVs

The influence a cow has on the pre-weaning growth of her calf is two-fold; her direct growth genetics (i.e. 200 Day Weight EBV) and the maternal environment she provides (i.e. Milk EBV).

The BREEDPLAN Milk EBV, by describing the genetics of a cow's maternal contribution to the 200 day weight of her calf, captures the mothering ability of a cow and the amount and quality of milk received by her calf. For a sire, the Milk EBV describes the maternal contribution that his daughters will have on the 200 day weight of their calves. The Milk EBV is expressed in kilograms.

The context of how the Milk EBV is reported should be considered when comparing different animals. For example, if we consider Sire A with a Milk EBV of +20 and Sire B with a Milk EBV of +10, we can see that the difference between the two bulls is 10 kg. As only half of the genetics come from the sire, we would expect that, on average, the daughters of Sire A

would contribute 5 kg more (via maternal contribution) to the 200 day weight of their calves than the daughters of Sire B. With all other factors (e.g. the 200 Day Growth EBVs of calves) being equal, the greater maternal contribution from Sire A's daughters will lead to a 5 kg average increase in the 200 day weight of their calves (grand progeny of Sire A).

The production system and environment in which cows will run should also be considered when considering the optimum level of Milk EBVs for your herd. Selection for increased Milk EBVs may be warranted when cows are run under good nutritional conditions and/or calves are sold as weaners. However, some environments may not support high Milk EBVs. For example, under suboptimal conditions, high Milk EBV cows may not get back in calf as easily as lower Milk EBV cows in the following year. Therefore, when considering Milk EBVs in animal selection, ensure you select animals with appropriate Milk EBVs for your production system and environment.



# No Crime in Submitting Data Ahead of Time: A Sale Catalogue Preparation Timeline

With sale bulls being the main source of income for seedstock producers, it makes sense to ensure that sale catalogues include BREEDPLAN EBVs calculated from all available sources of information. To achieve this, seedstock producers are encouraged to complete their data collection well in advance of the BREEDPLAN analysis from which sale catalogue extracts are done.

## Performance Data

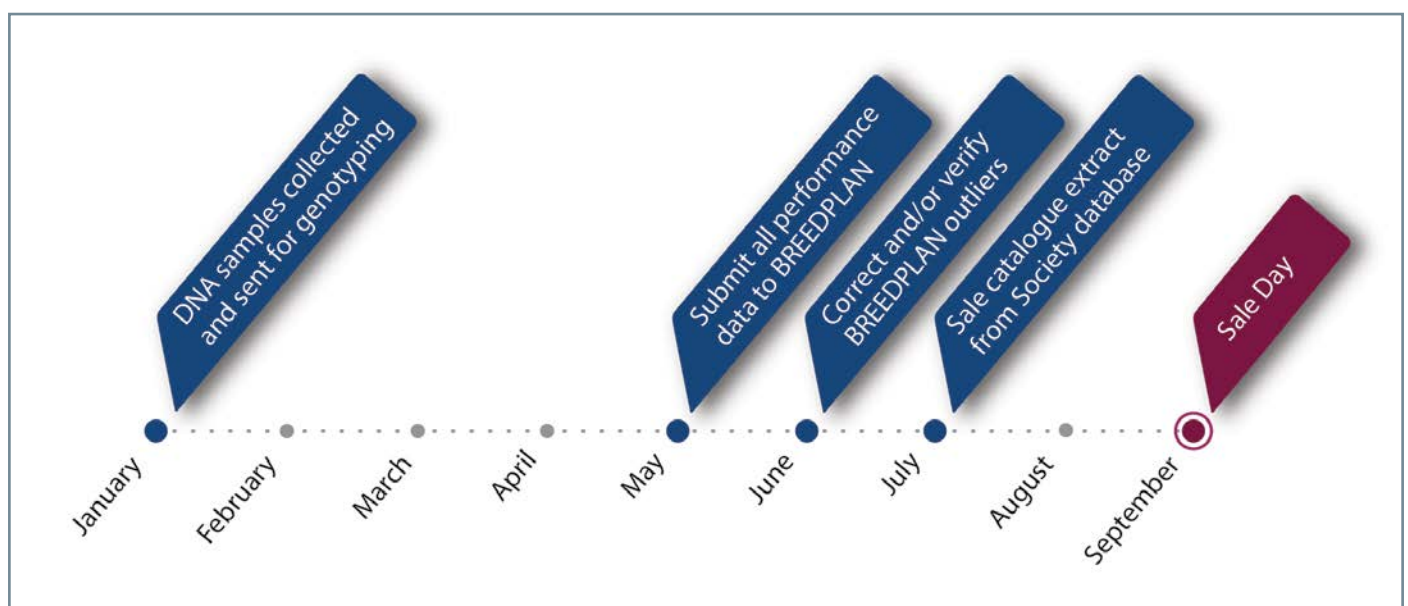
While best practice is to always submit performance data to your BREEDPLAN processing centre as soon as possible after collection, not all performance data is submitted to BREEDPLAN promptly. Instead, some breeders will wait until they have collected a complete set of performance data on an animal and do a bulk submission of this data to BREEDPLAN. There are several dangers to this approach; firstly, some performance data (particularly that stored in hard copy format) may be mislaid, and secondly, if submission is delayed for too long, this may mean that EBVs published in the sale catalogue do not include the performance information collected on the animal.

To ensure that the BREEDPLAN EBVs used in the sale catalogue include performance data collected on each animal, breeders should ensure that they have submitted all performance data on their sale animals to their BREEDPLAN processing centre at least

two analyses in advance of the BREEDPLAN analysis in which they intend to extract sale catalogue information. For those in breed societies/associations running monthly BREEDPLAN analyses, planning to use the July EBVs in your sale catalogue would mean that all performance data for sale animals should be submitted to your BREEDPLAN processing centre prior to the performance submission deadline for the May analysis.

By submitting performance data on sale animals well in advance of the analysis you are using for your sale catalogue, you have given yourself sufficient time to deal with any issues or problems that may arise. These include animal registration issues (e.g. animal "pending" registration, wrong sex, wrong ident), which can then be followed up with your breed society/association, and the ability to correct or verify any outliers that arise once the sale animals' performance data has been through a BREEDPLAN analysis. After all, no one wants to have the EBVs printed in their sale catalogue to not include the performance data of a genetically outstanding animal simply because they had run out of time to verify an outlier record.

An additional advantage to ensuring that all performance data on sale animals is included in the BREEDPLAN analysis well ahead of the sale catalogue extract is that this helps to avoid large EBV changes between the sale catalogue being printed and the day of sale (i.e. current EBVs supplied in a supplementary



An example sale catalogue preparation timeline for a September sale, showing the deadlines for each required task.





Lyn and Brett Coombe, Roxborough Brahman stud, have used BREEDPLAN EBVs as a tool to improve the fertility of their breeding herd.

sheet). This assists your commercial clients, as they can then identify sale bulls which meet their genetic requirements well in advance of sale day. With a subset of genetically suitable bulls identified prior to the sale, commercial clients can concentrate on completing visual inspections (e.g. for structure) on sale day.

### Genomic Information (Single-Step BREEDPLAN)

For those in breeds with Single-Step BREEDPLAN (currently Angus, Brahman, Hereford, Santa Gertrudis and Wagyu), one consideration is when to submit DNA samples for genotyping purposes. While those that are keen to use genomically enhanced EBVs to make selection decisions (for sale and/or breeding purposes) are encouraged to collect DNA samples at birth (TSU only) or marking (TSU and/or hair), some breeders may wish to simply include genomically enhanced EBVs in their sale catalogues. In this situation, breeders need to allow sufficient time for the genotyping process to occur, including time to resolve any issues that may arise.

The process from DNA sampling to genotypes being included in the BREEDPLAN analysis is not a quick one; once samples are received by the genotype service provider, they need to be processed (processing alone typically averages three to four weeks) before genotypes are returned to the breed society/association. From here, the genotypes will need to wait for the next BREEDPLAN analysis (this can be up to four weeks if they are received shortly after the data submission deadline).

While a three to four month turnaround should be sufficient for the majority of your DNA samples to be genotyped and these genotypes included in the BREEDPLAN analysis, a small subset of animals may require re-sampling. This can occur for a variety of reasons, including sample mix-ups, sample contamination

or insufficient DNA. Therefore, seedstock producers should ensure that DNA samples are submitted for genotyping at least six months in advance of the analysis for which they plan to extract sale catalogue information. This will give you some leeway in case re-sampling is required, or if there are other issues (e.g. parentage) that need to be resolved. Continuing with the earlier example of using July EBVs in the sale catalogue, this means that DNA samples should be sent for genotyping by the preceding January.

Seedstock producers should also consider collecting a spare DNA sample (hair) for home storage when collecting samples. Hair samples should be stored at room temperature, in labelled envelopes. Avoid storing in plastic as this will cause the hair to sweat, which can allow mould and other contaminants to flourish. While collection of a new sample is recommended if the lab does require re-sampling, a backup sample may also come in useful in the future (e.g. if a genotype is required once a bull is sold/deceased).

### Conclusion

Ensuring that all available information has been included in the calculation of BREEDPLAN EBVs included in sale catalogues is beneficial for seedstock producers and their commercial clients. Seedstock producers should aim to have DNA samples for all sale bulls sent off for genotyping at least six months ahead of the BREEDPLAN analysis used for sale catalogue compilation, and all sale bull performance data submitted at least two months ahead of sale catalogue compilation. Doing so will ensure you have sufficient time to deal with any arising outliers (performance data), re-sampling requirements (DNA) and/or animal registration issues.

# Genotyping the Keepers: It's All in the Timing

Those in breeds with access to genomically enhanced breeding values via a Single-Step BREEDPLAN analysis (currently Angus, Brahman, Hereford, Santa Gertrudis and Wagyu) may be considering when the best time to genotype their young animals is. Additionally, consideration may be given to whether all animals should be genotyped or just those that are to be kept (e.g. replacement heifers and/or sale bulls). This article will explore these considerations in more detail.

## When is the Best Time to Genotype a Calf?

Beef producers now have the opportunity to collect DNA samples for genotyping very early in a calf's life. Tissue Sampling Units (TSUs) can be used to collect a tissue sample when tagging and/or weighing the calf soon after birth. While it is recommended that hair samples are not taken until the calf is at least 60 days of age (allowing time for the hair follicles to develop), hair samples are commonly collected at marking/weaning. Even allowing for the genotyping process (typically 3-4 months) beef producers can have genotype information included in the Single-Step BREEDPLAN analysis by the time the calf is four to six months of age. For those who wish to utilise genomically enhanced EBVs as part of their selection criteria, collecting DNA samples at birth or marking/weaning is strongly encouraged.

## Why Genotype Young Calves?

The major advantage to having genomic information on animals at such a young age is that this information (in

the form of Single-Step BREEDPLAN EBVs) can be utilised when the cattle breeder is making selection decisions. While traditional BREEDPLAN EBVs for young animals are calculated from pedigree and the animal's own performance, genomics provides an additional source of information for the Single-Step BREEDPLAN analysis to use. This offers several advantages. Firstly, genomic information typically increases the variation (spread) observed between animals. This allows greater differentiation between the top (keeper) and bottom (cull) calves, allowing easier selection decisions and greater selection response. Secondly, genomics typically causes increases in EBV accuracy, which can cause re-ranking of animals. This increase in EBV accuracy is usually more pronounced for animals with a lower starting EBV accuracy, such as young animals with no progeny performance in the system. By lifting the EBV accuracy, genomics is providing breeders with a better description of an animal's genetic potential. This allows beef producers to be more confident in their selection accuracy when identifying which animals to keep, and which to cull.

An example of the effect of genomic data in animal selection can be seen in Figure 1. This figure shows ten heifers from a real Australian herd, born in 2020, and their Selection Index values when a) their own genotypes are not included (i.e. just pedigree and own performance) and b) their own genotypes were included (along with pedigree and own performance). Let us assume that the breeder plans to keep 60% of the heifers as replacements, and, for simplicity, is using the Selection





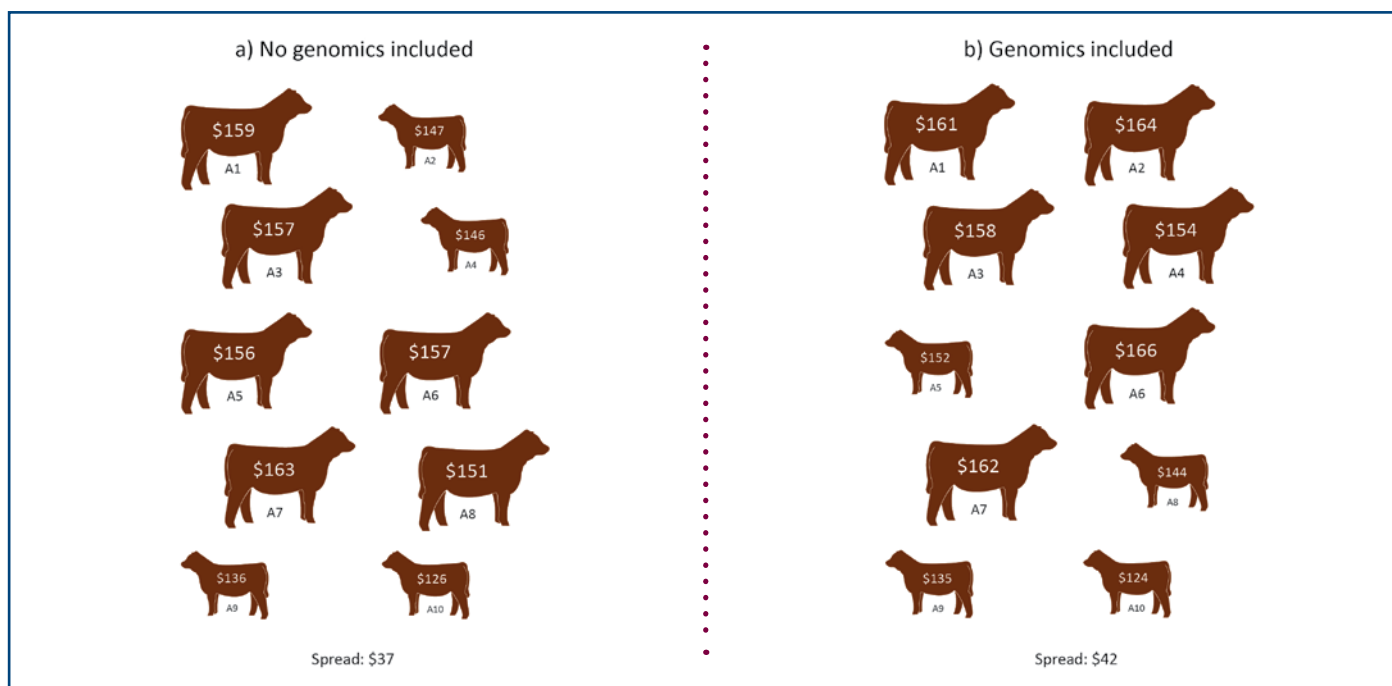


Figure 1. Ten 2020 drop heifers with Selection Index values when a) their own genotypes were not included and b) their own genotypes were included. Assuming a 60% replacement rate and selection on the Selection Index value, the larger animals are those that would be retained, while the smaller animals would be culled.

Index values as the sole selection criteria. Without genomically enhanced EBVs (which contribute to the Selection Index), the breeder would select heifers 1, 3, 5, 6, 7 and 8. However, a month later, with genomic information included, the heifers have re-ranked and the breeder would now select heifers 1, 2, 3, 4, 6 and 7. While not shown, the inclusion of genomic information is also lifting the EBV accuracy of these heifers. With the inclusion of genomic information, the beef breeder is able to make a more informed selection decision.

There are several other benefits to genotyping calves prior to animal selection. In addition to the ability to use genomically enhanced EBVs for identifying replacement heifers and/or sale bulls, many breed societies/associations offer DNA “bundles” which allow breeders to do parentage verification and genetic condition testing of their animals. Both of these, in particular genetic condition status, may also be important factors in the final selection of replacement animals.

### Should I Genotype All of My Calves?

One of the barriers to genotyping the entire calf crop is cost, particularly for larger beef herds with several hundred calves born each year. Understandably, some beef producers may look to genotype just those animals that they plan to keep, rather than the entire calving drop. While this may make sense from a financial viewpoint, this does cause a trade off with selection accuracy. As the example in Figure 1 showed earlier, the addition of DNA information can lead you to identify more suitable replacements than those that you identified initially (i.e. prior to having genomically enhanced EBVs). For this reason, in the ideal situation, all young animals should be genotyped.

In situations where finances do not allow for all calves within the calving drop to be genotyped, an alternative approach may be to genotype all calves but the definite culls (e.g. calves to be culled for other reasons, such as structure). That is, all calves you intend to keep or are considering keeping should be genotyped. This will ensure that you are not only able to use genomic information to make selection decisions for these animals but will have genomic information on all of the keepers. This will have benefit for their future progeny, as genomic information will flow through the pedigree from the parent to the progeny. Indeed, one option for those looking to gradually build the herd to the point that all cows are genotyped is to genotype the replacement heifers each year.

### Conclusion

Beef breeders who wish to utilise genomically enhanced EBVs in their animal selection decisions are strongly encouraged to collect DNA samples for genotyping at birth (TSUs only) or marking/weaning (TSUs or hair). By doing so, and sending samples off for genotyping straight away, beef producers can have genotype information included in the Single-Step BREEDPLAN analysis by the time the calf is four to six months old. Genotyping young animals also allows beef producers to consider parentage verification and genetic condition results when making animal selection decisions. While the cost to genotype the entire calf drop can be a large outlay, the advantage of this investment is that beef breeders will have all available information on all calves, allowing them to make the most informed selection decisions when deciding which calves to keep, and which to cull.

# BREEDPLAN Top Tips: Checking Your Scales

The collection of weights is critical for the calculation of BREEDPLAN Growth EBVs. As scale accuracy can deteriorate over time, weigh scales should be regularly calibrated. Additionally, there can be variation between different sets of scales; this can be removed through the calibration process. This is particularly important in situations where beef producers have multiple sets of scales, such as in different yards on their property(s). It is also common for different scales to be used for birth weight compared to post-birth weights, due to portability and weight range requirements. Regular calibration is required to ensure that all sets of scales give the same reading.

The scale calibration process typically involves the test weighing of multiple known or 'standard' weights. The scales are then adjusted until they report the known weights of the standards. Some important things to consider when calibrating your scales include:

1. The use of multiple standard weights. This is required as it is possible for scales to be accurate at a single weight point but inaccurate across a range. The use of multiple standard weights allows for scales to be tested with a single weight (light) or various combinations of multiple weights (heavier).



Additionally, multiple smaller weights are easier to move on and off the scales compared to a single large weight.

2. The use of inert standard weights. Our own body weight changes over time, as does the weight of containers filled with liquid (e.g. through leaks, evaporation). For this reason, using inert standards such as tractor weights or buckets full of concrete is advised. To obtain a known weight for these inert standards, they should be weighed at a certified weigh scale like those found at your rural supply store for weighing seed and other produce.
3. The use of the same standard weight across all scales. This ensures that the calibration of all scales used on your property(s) is equal. However, when collecting a particular weight (e.g. 200 day weight), the whole management group/mob should be weighed using the one set of scales.
4. The re-calibration of scales when moved. The process of transporting scales can affect their accuracy. Therefore, scales should be re-calibrated if they have been transported between yards/properties etc. Birth-weight scales are an exception to this; as they are designed to be portable, they do not need to be re-calibrated every time they are moved.
5. Regularly clean under scales. Scales located in cattle yards are prone to the build up of mud, hair and other detritus underneath. This can prevent the load bars from compressing and accurately measuring the animal's weight.



The frequency at which you should calibrate your scales will vary depending on how often you use them and the conditions they are operated under. Please refer to the manufacturer's recommendations for further detail. More information on recording weights for BREEDPLAN can be found via the Help Centre on the BREEDPLAN website.



# How Societies Benefited from Round 1 of the Beef Genomics Project (BGP): The Brahman Example

Round 1 of the Beef Genomics Project (BGP), established in 2015 ran for a three-year period until 2018. The project was funded by the Technology and Innovation Agency (TIA) that contributed R30 million to the Seedstock (Stud) industry. The industry in kind contribution was calculated to be R834 million over the three-year period.

The “in kind” contribution calculated the costs of recording all the imported weights and traits, and the costs for the producer portion of the feed efficiency and meat quality tests (approximately 40% of the cost). The economical rate of return for the project was calculated to be 18%, showing why an investment into genetic improvement is so important.

The Brahman allocation for a combined project between South Africa and Namibia was R2.8 million, for subsidized RFI tests, Meat Quality tests and its allocation of genomic SNP's. The allocations were done according to the number of registrations per breed Society.

The project started by developing a “BGP test plan” that detailed the contemporary grouping of animals and set recommendations for feed efficiency and meat quality tests. A set 50% of animals in a feed efficiency test was slaughtered for example, leading to good phenotypic data for breed societies to gauge their average meat tenderness, marbling and yield results. Many performance protocols for LRF breed Societies to follow were developed in the project.

The Brahman societies collected 171 feed efficiency records, 165 carcass and meat tenderness records and 443 SNP records. During the BGP project for example, Mecki Schneider in Namibia was able to install a first of its kind “Growsafe” feed intake facility collecting over 1000 records and thus enabling BREEDPLAN to release a Feed Intake EBV. About a third of the historic Phase C results, of animals in a contemporary group, were included into the evaluation.

Producers also submitted good data (mating records) that enabled the release of a Days to Calving EBV. Also, during the first round of the BGP, breeders submitted “Docility scoring” data that led to the development of an EBV that can be used to score Temperament (Docility). The South African and Namibian Brahman societies decided on using the same scoring system so that the data collected from both countries could be included in the calculation of a Docility EBV. This was a big achievement.

The first phase of the BGP program was an unmitigated success and all Societies benefited. BGP 2 has unfortunately been placed on hold as the money has been reallocated to Covid 19 programs. It has now been left to individual Societies to continue with their programs and most have risen to the challenge to create the reference population that will allow a Genomic EBV's to be published soon.

**DR MICHAEL BRADFIELD (CHIEF EXECUTIVE OFFICER LRF)**



L-R: Hugh Nivison (CEO ABRI), Dr Michael Bradfield (CEO LRF), Mecki Schneider (Gentecsol), Jason Gillespie (Growsafe Software), Ebbie Fischer (Gentecsol)

# Diploma in Animal Breeding



Participants in South Africa, photo courtesy of Izaan du Ploy

In keeping with recent trends, this course was held both virtually (SA, Zimbabwe) and attended by some participants live in south Africa.

It was put together by LRF and the University of the Free State to facilitate a growing need for qualified personnel in the workplace and a desire from breeders to better understand the genetic information they are working with to help them make more informed decisions.



Participants in Zimbabwe, photo courtesy of Anne Cooke

In Zimbabwe, as it was post an extended lockdown, we made the decision to attend the virtual course as a group at a local conference centre (Sandal Wood Lodge) in Harare. The course was intense and more so because it was online – it took some getting used too. Equally valuable was the discussions during the breaks clarifying details or the practical implications on the ground. We had our own in-house boffin in Mario Beffa who runs breedplan through ZHB in Zimbabwe and is the LRF link on the ground. We rounded up our first day with a cheese and wine evening – and again it was great to see how theory gets woven into real life experiences or how it now becomes a potential solution to a farmer's problem.

The second day had a more practical slant to it which moved into the breeder's comfort zone and they could take the theory from the day before and look at it in a practical light. It was particularly useful for the farmers to understand better what happens to their data once it is submitted and to better understand the scientific side of things. It also highlighted how important it is to get your data in correctly and most importantly to get your contemporary groups right.

**ANNE COOKE - ZIMBO TULIS & VICE-CHAIRMAN ZHB**



# New SBTS & TBTS Technical Notes Now Available

The following articles (originally published in SBTS & TBTS Update magazines) are now available as stand-alone Technical Notes on the SBTS and TBTS websites:

- Re-Building Herds After Adversity
- Breeding for Production System Efficiency
- Breeding for Environmental Efficiency
- The Maternal Female: What Makes a Good Cow
- The Case for Genotyping Females
- ET Flush Siblings are not Identical Twins

The 'A Seedstock Producer's Perspective' articles have also

been made available on the SBTS & TBTS websites as stand-alone documents. These include:

- A Seedstock Producer's Perspective: MateSel
- A Seedstock Producer's Perspective: Using BREEDPLAN in a Smaller Herd
- A Seedstock Producer's Perspective: Breeding for Fertility

You can find all of the articles mentioned above in the Seedstock: Breeding Better Cattle area of the SBTS & TBTS websites (<http://sbts.une.edu.au> and <http://tbts.une.edu.au> respectively, under Resources.

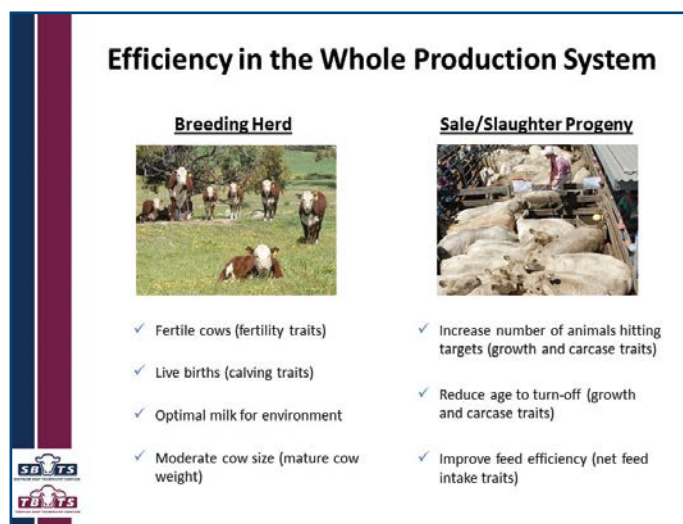
## Breeding for Efficiency Webinar Now Available

In October 2020, SBTS Technical Officer, Catriona Millen, was invited by the North West Beef Extension Network and the North West Local Land Services to present a webinar on Breeding for Efficiency. With many beef producers in this area of NSW in a re-building phase, the underlying theme of the webinar was how producers could make their investments in new animals and genetics count by building a herd of efficient animals for the future.

With this in mind, Catriona outlined efficiency from a range of perspectives. This included production system efficiency in a self-replacing herd, both in the breeding herd and for

sale/slaughter progeny, environmental efficiency and the opportunity to make use of biological efficiency (i.e. terminal sire x maternal cow). Catriona also outlined how BREEDPLAN EBVs and Selection Indexes can be used in conjunction with visual appraisal to identify animals with genetics appropriate for the production system.

For those interested in viewing the webinar, it was recorded and can viewed via the SBTS & TBTS YouTube Channel, or via this link: [bit.ly/3rFQ1B3](https://bit.ly/3rFQ1B3)



# Tips for the HERDMASTER User From Your Technical Staff

Something that happens often is clients get below error for sire/dams when sending new registrations (see figure below).

## The Solution

They need to go back and check the sire/dam and they will find there is no Society and/or tattoo entered only an animal tag.

## The Reason

The animal tag is what is physically on farm, on your animal and used daily. The society number/tattoo is the registration number required by your individual society for all registered animals.

Some farmers have a version of the society number as their animal tag, others have a totally different number which is fine if they are both entered against your animals in your Herdmaster program. Remember that your society number/tattoo number is what is used as the link between your animal tag on farm, your society and then Breedplan. The animal tag is what is convenient and practical to use on farm, but it would be chaos if the society had to keep all the records using each individual farmers tagging method so Herdmaster have given us an option to keep our animal tag number but attach it to the society/tattoo number for data to be passed on.

JEANINE LABUSCHAGNE - HERDMASTER SUPPORT OFFICER

No SireID	
Record ID	Message
9	Animal with Animal Tag: JWW003 has Sire with no Society ID. This Animal cannot be registered.
10	Animal with Animal Tag: JJL19783 has Sire with no Society ID. This Animal cannot be registered.
11	Animal with Animal Tag: JJL20009 has Sire with no Society ID. This Animal cannot be registered.

## Get Social - Get Informed

### Social Media Links

Articles and information on upcoming events (e.g. webinar series, BullSELECT workshops) are routinely posted on Facebook and Twitter. The YouTube channel contains video presentations from past webinar series and short 'Understanding BREEDPLAN EBVs' video clips.

#### LRF

To follow LRF on Twitter, Facebook, Instagram or check out their website, visit the following.

Twitter: [twitter.com/LivestockLrf](https://twitter.com/LivestockLrf). Facebook: <https://www.facebook.com/HerdmasterBreedplan>.

Instagram: [livestock-registering-federation/](https://www.instagram.com/livestock-registering-federation/) or their website: [www.lrf.co.za](http://www.lrf.co.za)

#### ZHB

Visit the ZHB website for more information: [www.livestockzimbabwe.com](http://www.livestockzimbabwe.com)

#### SBTS & TBTS

(Technical Services for BREEDPLAN Australia)

To follow SBTS and TBTS on Twitter, Facebook or YouTube visit the SBTS & TBTS Facebook account at [facebook.com/SBTSTBTS](https://facebook.com/SBTSTBTS), Twitter account at [twitter.com/SBTSTBTS](https://twitter.com/SBTSTBTS) or YouTube Channel at [youtube.com/user/sbtstbts](https://youtube.com/user/sbtstbts)





# Performance Recording Timeline



The following table details the performance information that currently contributes to the calculation of BREEDPLAN EBVs and outlines the stage of the production cycle that each set of information should be recorded.

18 Months			
Joining	Birth	Weaning	Maturity
<b>Yearling</b> 400 Day Weight Scrotal Circumference Scanning Measurements (EMA, Fats, IMF%) Abattoir Carcase Data Structural Score Information	<b>Yearling</b> 600 Day Weight Cow Disposal Code (Heifers and Cows) Mature Cow Weight	<b>18 months</b> 200 Day Weight Mature Cow Weight (on dams) Docility Score Flight Time	<b>Maturity</b> 400 Day Weight Scrotal Circumference Scanning Measurements (EMA, Fats, IMF%) Abattoir Carcase Data Structural Score Information
<b>Birth</b> Date of Birth Birth Weight Calving Difficulty Score Recipient Dam Details	<b>Birth</b> Date of Birth Birth Weight Calving Difficulty Score Recipient Dam Details	<b>Birth</b> Date of Birth Birth Weight Calving Difficulty Score Recipient Dam Details	<b>Birth</b> Date of Birth Birth Weight Calving Difficulty Score Recipient Dam Details

Members of BREEDPLAN are not required to record all the above information for every animal. Members should aim to record the traits that are important to their breeding objective/s or that of their clients (at a minimum).



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](http://breedplan.une.edu.au)

# Accessing Support in Application of Genetic Technologies

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For support in the use and understanding of the different genetic technologies available or to discuss information included in this edition of the LRF-TS News, please contact any of the above offices.