SOUTH AFRICA | NAMIBIA | ZIMBABWE

LRF-TS news

MARCH 2023

Livestock Registering Federation News

The Livestock Registering Federation (LRF) is a non-profit organisation established in 2000 following the release of the Animal Improvement Act (Act No. 62 of 1998) enabling breed societies to keep their own animal records and performance data.

The LRF unites, promotes and protects its members, advocating the use and application of the latest technologies in animal breeding and providing a platform to educate producers and enhance the livestock production.

The LRF also acts as a liaison and coordinator between Agricultural Business Research Institute (service provider) and the registering authorities, particularly in the development and application of new technologies.

Over the past year, the LRF has welcomed two new members to the team, Dr Mario Beffa in the capacity of Acting CEO and Miss Jody Young in the capacity of Technical Assistant. Both were appointed on a part-time basis.

We are pleased to report that the 2022 LRF Stockman School was a big success. We had a fully packed venue with more than 200 attendees. This was the LRF's 14th Stockman School, and some commented that it was one of the best so far. Mr Johan Styger, the Vice-Chairman, reported that the buzz in the atmosphere and broad spectrum of speakers covering topics from basic to advanced made the 2022 LRF Stockman School stand out from previous years. Thank you to everyone who attended the school, we hope that everyone enjoyed it as much as we did. A big thanks to all our excellent speakers and sponsors, without you the school would not have been possible.

Congratulations to all the LRF award winners for 2022. Our Molatek/Landbouweekblad/ BREEDPLAN Stud Producer of the year award went to Bianca Lueesse from Lichtenstein

Top: LRF AGM, 2023. Bottom: LRF Stockman School, 2022.
Photo credits: Livestock Registering Federation.

Simmentaler stud in Namibia. Mr Cois Harman received the John Deere services to the emerging sector award for 2022. BKB/LRF Services to the Industry award went to Mr Llewellyn Angus for his outstanding contribution to the Livestock industry of Southern Africa. The date for next year's LRF Stockman

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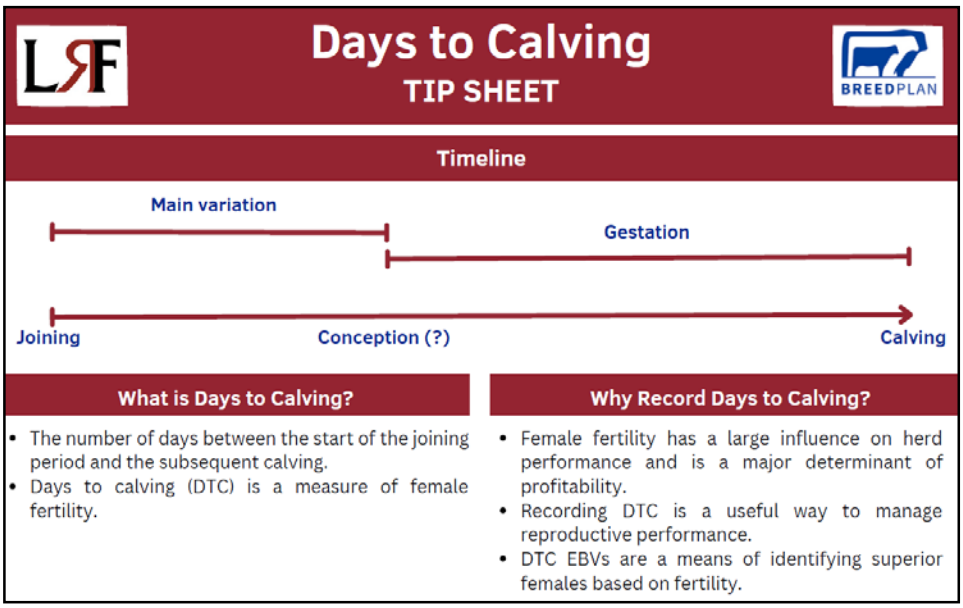


An example of the new Tip Sheets available in both English and Afrikaans.
Image credit: Livestock Registering Federation.

School is 11 – 13 October 2023. Please add this to your calendars. The focus of last year's school was on the cows, this year we will focus on the bulls.

The LRF values access to technical content in an easy to understand and user-friendly manner. The LRF website has been established as an interactive platform where you will find regular announcements, training, events and RTU Scanning Services. There is quick and easy access to the BREEDPLAN and HerdMASTER Help Centers as well as a section dedicated to the new LRF Tip Sheets, which are now available in both English and Afrikaans. As new LRF Tip Sheets are frequently added to the website, there will be short reminders on Instagram, Facebook, LinkedIn and in the monthly newsletters. The LRF members are encouraged to frequent these platforms and share this information to promote engagement in technical content as much as possible.

The Southern African breeds have received the green light from BREEDPLAN to adopt 49-day Net Feed Intake (NFI) tests at the various Vytelle/GrowSafe NFI testing stations in South Africa and Namibia. This is a reduction from the previous standard 70-day test. This is on the proviso that the test stations have continuous in-pen partial weighing systems, as weekly weighing during the shortened test is not sufficient for accurate Average Daily Gain (ADG) calculations.

This will significantly reduce the costs, especially the feed costs, associated with NFI testing. The shortened tests, allow test stations to fit an additional test cycle per calendar year and the LRF is confident that this will result in more animals tested. Only the Brahman and Simmentaler societies currently report NFI EBVs, but hopefully more societies will be added to the list soon.

In August last year, the Wagyu Society of South Africa published their first selection indexes. They currently report three different indexes for three different markets. These include the Cow Calf Producer Index (CCP), the Long Fed Terminal Index (LFT) and Short Fed Terminal Index (SFT). For more information on these, please click here for the Technical Specifications tip sheet. Some of the other societies are in the process of updating their selection indexes to reflect their current and future markets.

The past year has been well received and 2023 is welcomed with much anticipation. Please engage with the various platforms to stay up to date with the latest updates and do not hesitate to contact the LRF office for any questions or information.

DR MARIO BEFFA, IZAAN DU PLOOY AND JODY YOUNG
LIVESTOCK REGISTERING FEDERATION

ABRI Extension Services Delivers BREEDPLAN Workshops in Bloemfontein and Windhoek

In October 2022, Catriona Millen from ABRI's Extension Services team visited South Africa and Namibia to present at the Livestock Registering Federation (LRF) Stockman School and the Namibian Brahman Breeder Society (NBBS) Symposium and National Sale.

1. The Importance of Genetics

This included a discussion of the impact of genetics and the environment of the performance (phenotype) of an animal. BREEDPLAN EBVs remove the environmental effects on performance to provide an estimate of genetic merit for a range of economically important production traits.

2. The BREEDPLAN Process

This session outlined the BREEDPLAN pipeline. There was a discussion about the balances and checks that BREEDPLAN has in place, and the opportunity for breeders to review the performance of animals that had been flagged as outliers.

3. Performance Recording for BREEDPLAN

This included an overview of when and how each BREEDPLAN trait should be recorded, and how the collection of performance data can be integrated with routine management practices on farm. The BREEDPLAN Performance Recording Timeline provides a good starting point.

4. The Uses of DNA in the Beef Industry

Discussion included the value of DNA for parentage verification, managing genetic conditions and the opportunities for genomics in the future. There was much discussion about the transition from microsatellites to SNP genotyping. This article from ABRI's Extension Services team outlines some considerations when moving towards SNP parentage verification.

5. A Best Practice Guide to Displaying EBVs

This session provided an overview of how to display BREEDPLAN information, particularly in sale catalogues. More information can be found in the BREEDPLAN Guide to Displaying EBVs tip sheet.

Thanks to the Brahman Cattle Breeders' Society of South Africa for hosting the Bloemfontein workshop, and to the Namibian Stud Breeders Association (NSBA) for hosting the Windhoek workshop. Thanks also to LRF and NSBA staff for their assistance in organising the workshops.

BY CATRIONA MILLEN - ABRI EXTENSION SERVICES

BREEDPLAN workshop in Windhoek, Namibia (2022).
Photo credit: ABRI Extension Services.

BREEDPLAN workshop in Bloemfontein, South Africa (2022).
Photo credit: ABRI Extension Services.

AGBU: The Engineers and Mechanics Behind BREEDPLAN

By Steve Miller
Director, AGBU

I am pleased to write this first column, which will have a regular spot in the SBTS & TBTS Update magazine. Articles here will highlight current Animal Genetics and Breeding Unit (AGBU) activities related to BREEDPLAN and results of relevant recent research. As this is the first article it is best to start with where AGBU fits in the delivery of BREEDPLAN.

AGBU is a joint venture between the NSW Department of Primary Industries (NSW DPI) and the University of New England (UNE). Established in 1976, AGBU's original mission was to develop genetic evaluations for beef cattle, the system that is widely known as BREEDPLAN today. When AGBU was established the Agricultural Business Research Institute (ABRI) was already up and running, also at UNE, and was delivering the National Beef Recording Service (NBRS). After close to half a century, the relationship has evolved into one in which AGBU does the core research and development around BREEDPLAN and develops the relevant software and ABRI commercializes this service to users, predominantly breed societies in Australia and around the world.

AGBU has changed a lot from its humble beginnings in 1976. An AGBU staff photo from 1980 includes 8 people, including 2 post-graduate students. Today the AGBU team includes 29 staff and an ever-expanding cohort of post-graduate (PhD and MSc) students, which is now at 10. The team is diverse with 11 females and 18 males on staff and 16 countries of origin represented in the building. The majority of the current AGBU team is pictured on the steps of the AGBU building which was opened in 1994 on the UNE campus.

In the early days of AGBU the mandate was beef cattle. Today AGBU works across plants and animals and includes not only sheep and beef cattle, which is the primary focus, but also pigs, aquaculture, row crops and the beginning of a bee breeding program. There is strong demand for what AGBU does internationally and expertise in genetic improvement techniques related to genetic evaluation are in high demand from many species.

The pipeline for the creation and delivery of BREEDPLAN can be compared conceptually to that of the creation and sale of automobiles. An automaker has engineers that design and build the car. The consumer purchases the car from a dealership, which looks after promoting and retailing the car, but also the after sales service. ABRI is closest to being the car dealership in this pipeline and AGBU the factory, which includes the engineers and technicians that create the car. Similar to the auto pipeline, when it comes to service most of this can be handled at the dealership, but sometimes the engineers need to get involved when the problem is more fundamental in nature. This is why we often find AGBU engineers working alongside ABRI technicians to solve problems for customers.

The AGBU team in front on their building on the UNE campus in 2022.

Recently I was describing some recent updates to one of the BREEDPLAN evaluations to breeders and again I used a car analogy. Internally when the 'technicians and engineers' discuss each BREEDPLAN run, it is similar to how a mechanic might describe an engine running. Nowadays with onboard computers, electronic ignitions and fuel injection, the idea of a regular 'tune up' does not mean the same thing as it did to cars from the mid 1970's and earlier. In that era, a mechanic would put their hand on top of the air breather housing, which was typically fastened with a wing nut to the carburettor, which would sit atop your V8. Any vibrations would be related to a misfire and a well-tuned engine would balance a dime on its edge atop the engine, although I never saw that accomplished.

A well-tuned engine includes many inter-related systems including ignition, fuel and timing. The ignition system would include point and spark plugs gaps, as well as timing of the spark related to the pistons position and RPM. The valve timing relative to the pistons would be factory set, but the high and low speed mixtures on the carburettor would be adjusted to suit the engine. The genetic evaluation, like an engine relies on a number of interrelated systems that all come together to make a BREEDPLAN evaluation 'hum'. Like an out of tune engine, when these systems are not optimized for the given engine, the engine will still run and go down the road, but it won't 'hum' and perform as it could. Performance of the genetic evaluation is not related to horse power or balancing a dime atop an air breather but is in relation to the accuracy and predictability of breeding values produced.

The inter-related systems that come together to form an accurate prediction of EBVs in BREEDPLAN include data edits, adjustment factors for known effects such as age, parameters including measures of variation in traits, heritabilities and correlations between traits, alignment of genomic information and finally post-processing of results to present the EBV on a usable and consistent scale. This system is like an engine and to run properly, each of these factors needs to be adjusted to the breed and these require updating periodically, just like an engine requires periodic 'tuning'. This 'tuning' of BREEDPLAN runs is just one such activity that AGBU undertakes to keep the genetic evaluation system accurate. Unlike a tune up on your car that might take a couple hours of shop time, this tuning of the BREEDPLAN evaluation is much more significant and requires in some cases months of an experienced scientists time running large analyses on large computers. This development work at AGBU is made possible predominantly from research revenue from Meat & Livestock Australia (MLA) that supports BREEDPLAN and Sheep Genetics R&D.

We look forward to using this forum to communicate results of BREEDPLAN research in the future and expose the readership to the broader AGBU team involved.

Michael J. Bradfield Memorial Scholarship to Provide Post-Grad Study Opportunity

A newly created scholarship has been established at the University of New England (UNE) in honour of the late Dr Michael Bradfield. Funded by the Agricultural Business Research Institute (ABRI), the Michael J. Bradfield Memorial Scholarship provides a M.Sc. or Ph.D opportunity at the Animal Genetic and Breeding Unit (AGBU) at UNE.

Michael worked as a genetics consultant for over 20 years and played an instrumental part in the implementation and ongoing management of the genetic evaluation system, BREEDPLAN, and on-farm software, HerdMASTER, throughout southern Africa.

Besides being a passionate and dedicated leader in his field, Michael was also a great champion for the under privileged and this scholarship is presented with this same spirit of inclusion.

For more information, and to apply, please visit the Michael J. Bradfield Memorial Scholarship webpage on the UNE website.

Southern Multi Breed Project Update: A Significant Milestone Reached

The Southern Multi Breed project has reached a significant milestone with the first heifers born within the project now having their own calves on the ground. The calving of these heifers represents the first opportunity for the project to fully evaluate female fertility as the calves born in the previous two years were from purchased females whose development and subsequent performance were influenced by their source herds management and environment.

With 1400 to 1500 calves born in mixed breed mobs each year, across five widely spread New South Wales Department of Primary Industries (NSW DPI) properties, considerable time and effort has been expended in recording both the calves and their mothers. This recording not only includes current BREEDPLAN traits but also research traits that are being investigated for potential future use. All progeny are retained within the project and recorded until the steers are slaughtered or the females are surplus to requirement. The steers are backgrounded at two NSW DPI properties before entry into the 'Tullimba' research feedlot at the University of New England. The female progeny are retained at their birth farms and are all naturally joined at ~15 months of age and retained for a minimum of three matings. No culling, except for freemartins heifers, occurs to ensure that the full genetic diversity and corresponding performance of the population is represented in all age groups. Table 1 (see over page) displays the traits that are intended to be recorded in the project.

With the research requirements, genetic linkage to other projects and populations, and multibreed component of this project, the purchasing and mating decisions have been particularly complex. To assist with this, MateSel was used to allocate the base dams and sires across the research sites within the Southern Multi Breed project. Genomic testing is also being used to quantify the genetic diversity of the Southern Multi Breed progeny and their genetic relationship to the national herd.

The base cows at the start of the project represented 223 Angus, 197 Hereford, 99 Wagyu, 93 Shorthorn, 80 Charolais and 78 Brahman sire families. In 2019/20, these cows were then artificially inseminated to 171 bulls that incorporated 23 historic sires from previous Beef CRC projects, 14 from the Repronomics project, 12 from the Angus Sire Benchmarking Program and 11 from the Hereford Beef Information Nucleus (BIN). The inclusion of sires (and in some instances, their sons) from the other projects has created genetic linkage between these projects which allows the project findings to be of relevance to a wider population. Figure 1 (see previous page) demonstrates how the linkage between industry herds (left), each of the five project birth sites (centre) and with the other research projects (right) was achieved.

Current activities within the Southern Multi Breed project include the natural mating of the maiden heifers (2021 born) and cows with their first calf at foot (2020 born; both cohorts

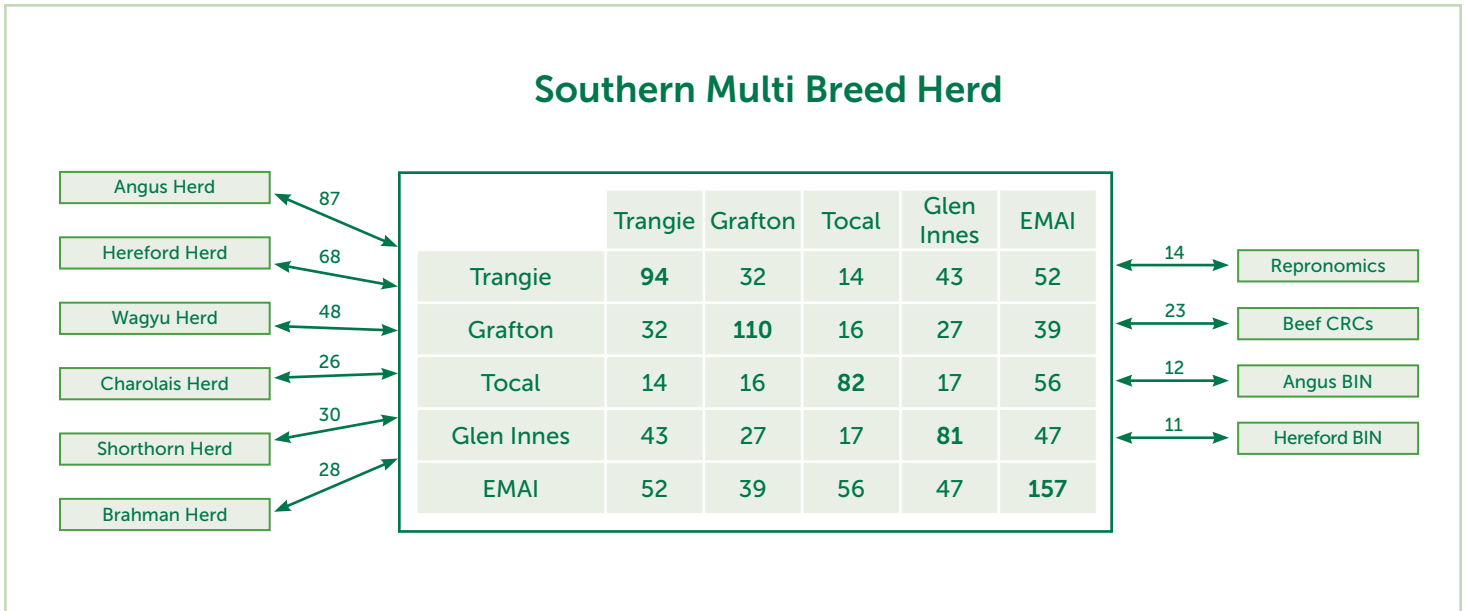


Figure 1: Number of bulls used at each research site (diagonal) and bulls in common (off diagonal). The number of bulls from industry herds (left) and in common with other research herds (right) are shown. Source: Walkom et al. 2021

Southern Multi Breed project cows and calves at EMAI. Photo credit: Yizhou Chen, NSW DPI.

born within the project) and the artificial insemination of the older base cows. At the time of writing, the last slaughter of the 1st cohort steers (2020 born) was being finalised and the 2nd cohort steers (2021 born) were just about to enter the Tullimba feedlot.

The Southern Multi Breed project represents a considerable investment in the future of the Australian Beef Industry and has been made possible through the contributions of NSW DPI, UNE and Meat and Livestock Australia (MLA). This project will collect performance information (including DNA) to support existing breed genetic evaluations, particularly for hard-to-measure traits. The project may also assist in the future development of EBVs for new traits and allow for the possibility of multi-breed evaluations into the future.

DATA RECORDED FOR BREEDPLAN EBVS	RESEARCH TRAITS#
Joining/Pregnancy Records	Ultrasound Puberty & Return to Oestrus Assessment
Date of Birth	Calf Survival
Birth Weight	Calf Behaviour at Birth
Calving Ease	Cow Teat and Udder Score
Gestation Length (AI only)	Worm Egg Count
Weaning Weight	Horn/Poll Assessments including Scurs
Flight Time	Muscle Scores
Docility	Immune Competence
Yearling Weight	Cow Hip Height, Body Condition Score, EMA & Fat (pre mate & wean)
Ultrasound Eye Muscle and Fat Scan	Meat quality including consumer testing (steers only)
Net Feed Intake (steers only)*	
Pre Slaughter Live Weight	
Abattoir Carcase Date (steers only)*	
Structure	
Mature Cow Weight	

*Contact your BREEDPLAN processing centre for information on recording these traits.
#Some research traits are recorded through additonal MLA-funded overlay projects. Other research traits may still be added.

Table 1: Traits recorded within the Southern Multi Breed Project.
Links to tip sheets and/or videos on recording some of these traits with BREEDPLAN are included.

New Documentation to Assist Cattle Producers Use and Understand BREEDPLAN Information

A range of material designed to assist cattle producers in their use and understanding of BREEDPLAN information has recently been made available via the Help Centre on the BREEDPLAN website. This material includes both written documents and short videos, which cover how to interpret EBVs, how to use BREEDPLAN information in animal selection and outline what each individual BREEDPLAN EBV means.

Seedstock producers are welcome to share these new documents with their commercial bull buying clients. For example, you may wish to reproduce and/or link to some of these documents in your sale materials (QR codes are a great way to do this if space is at a premium). We recommend linking back to the version on the BREEDPLAN website, rather than hosting a local copy, to ensure that the most up-to-date version is always available to your clients.

The new BREEDPLAN material is described below:

1. A BREEDPLAN Guide to Interpreting EBVs

Recently released, this new tip sheet provides an overview of how to interpret BREEDPLAN EBVs. When considering BREEDPLAN EBVs, cattle producers may:

1. Compare to the level of genetic merit within the current population
2. Compare expected difference in progeny performance
3. Consider EBV accuracy

Scan the QR code or click here to access an electronic version of the BREEDPLAN Guide to Interpreting EBVs

2. A BREEDPLAN Guide to Animal Selection

A new video to complement the A BREEDPLAN Guide to Animal Selection tip sheet has recently been developed. This short video provides cattle producers with an overview of how BREEDPLAN information can be used in conjunction with visual assessment to identify and select the most profitable animals for their production system.

Select the best genetics for your production system in four easy steps:

1. Identify the selection index of most relevance to you
2. Rank animals using the chosen selection index
3. Consider the individual EBVs of importance
4. Consider other traits of importance

Scan the QR code or click here to view a short video on the BREEDPLAN Guide to Animal Selection

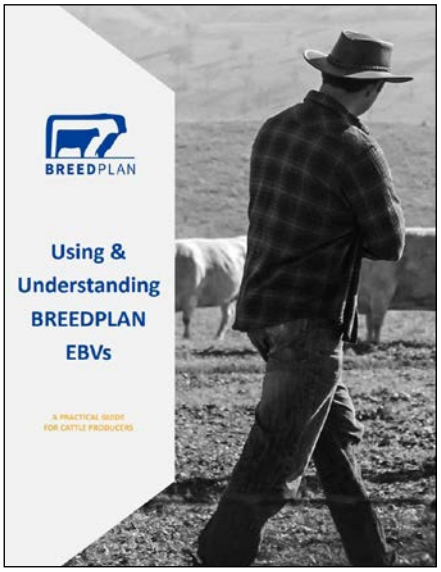
3. Using & Understanding BREEDPLAN EBVs

Finally, BREEDPLAN have recently released a Using & Understanding BREEDPLAN EBVs booklet. This booklet is a collation of tip sheets designed to assist cattle producers use BREEDPLAN information.

The booklet contains the following BREEDPLAN tip sheets:

- A BREEDPLAN Guide to Animal Selection
- A BREEDPLAN Guide to Interpreting EBVs
- A BREEDPLAN Guide to Selection Indexes
- The 14 'Understanding EBVs' tip sheets that explains each individual BREEDPLAN EBV

Scan the QR code or click here to access an electronic version of the Using & Understanding BREEDPLAN EBVs booklet



Balanced Breeding as an Approach to Genetic Improvement

The basic objective of animal breeding is to continually improve production efficiency and product quality. Breeders must strive for genetic improvement in economically important traits, regardless of their breeding system, said Brad Gilchrist of Semex during the annual beef info day hosted by the Metzger family of the Kamab Simbra stud. He focused on a balanced genetic approach in breed programmes.

Selection indexes allow you to make balanced selection decisions, according to him. "They take the hard work out of knowing how much emphasis to put on each individual trait by ranking animals on their overall genetic value for a particular production system and value-addition along the entire production chain. Consider the growth, carcass quality, birth weight and fertility of each animal to identify animals that are most profitable for a particular production system."

Brad emphasised that is important for producers to understand their goals in breed programmes and to be aware of the good and the bad. "It is important that we look at all key traits, e.g. nett-feed intake, growth and performance and fertility without neglecting phenotypical attributes in a balanced approach. Working towards breed goals include who you are we going to sell to, how are you going to make money and how do you save costs. Once a breeder understands his goal, he needs to make an honest opinion of what the programme entails. This is necessary to evaluate cattle and understands limitations and market advantages."

Measuring

In this regard Brad quoted a colleague's saying, "that making great decision without measuring is like bowling in the dark".

Brad Gilchrist of Semex in the USA and the father-son hosts Diethelm and Nikolai Metzger during the Kamab Simbra Beef Info Day on farm Neu-Otjisauona.

If we cannot measure what we have got and where we want to be, how can we make the next decision, Brad asked. He is of the opinion that data is key, the more data collected on the various traits, determine progress in a breed programme. The environment in which cattle are produced, should also be taken into consideration. In different environments cattle are genetically the same but phenotypically they would differ much that needs to be kept in mind when buying in new genetic material.

While discussing estimated breeding values (EBVs) he emphasised the importance of average daily gain and nett-feed intake (converting feed in an efficient manner without losing performance).

Genomics

According to Brad the accuracy of traits increases with DNA and genomic testing by identifying cattle with certain positive traits sooner to unlock genetical potential. "Make sure to look at all the traits by not selecting individual traits," Brad warned.

"Depending on management practices, a cattle breeder can make an informed decision on genetics he wishes to use in his cattle herd. If you have facilities performance can improve with a little more growth and slightly higher birth weight depending on feeding practices. If you want moderate and more feed efficient cattle, we can expect cattle a moderate stature. The opposite is true if you want cattle that yield much more kilograms which will be of a larger frame."

Making balanced breeding decisions is a long-term decision, Brad added. "This will not only have an influence on one generation. A decision taken today, is going to have an impact ten to fifteen years from now."

While selecting cows, make sure they are phenotypically and structurally sound, have good udders and will be to the benefit of the overall hereditary line, Brad advised. "We want cows to give birth unassisted with the calves getting up soon and start suckling. Their offspring should be profitable with a low nett-feed intake (high growth on a low maintenance diet). In the case of bull lines decisions will have an impact over many generations and for many years to come for which a strategic approach is needed."

ARTICLE AND PHOTO SUPPLIED BY
AGRIFORUM NAMIBIAN AGRICULTURE MAGAZINE

Recording Management Groups

The recording of management group information by cattle producers is one of the most important aspects of BREEDPLAN. This article provides an overview of management groups, while also explaining when and how they should be utilised.

Why Should Management Groups be Recorded?

One of the most important premises underpinning the BREEDPLAN analysis is that **only animals which have had an equal opportunity to perform should be directly compared.** To achieve this, BREEDPLAN analyses cattle in contemporary groups. In doing so, the influence of as many non-genetic factors as possible are removed (e.g. feeding regime, age, seasonality).

The BREEDPLAN analysis automatically creates contemporary groups based on a range of criteria (see the Understanding BREEDPLAN Contemporary Groups tip sheet, available in the Help Centre on the BREEDPLAN website). One such criterion is breeder defined management groups.

Breeder defined management groups allow producers to act as "eyes" for the BREEDPLAN analysis. By assigning management groups alongside performance data, breeders are able to inform BREEDPLAN of any on-farm treatment and/or management decisions that may have impacted on the performance of their animals. In this way, breeders are assisting to identify those animals which can be genuinely compared together, and those which should not be compared head to head.

Breeder Defined Management Groups

There are two different forms of breeder defined management groups:

(i) Birth Management Groups

The birth management group allows breeders to describe differences in the treatment of the cows prior to the birth of their calves (especially in the last trimester) that may affect birth weight and/or calving ease when the calf is born.

Common examples include:

- Pregnant cows being run in different paddocks where feed is of different nutritional value. Calves born into a paddock with low(er) nutritional value should be placed into a separate birth management group to calves born into a paddock with high(er) nutritional value.
- A producer owns multiple properties, with pregnant mobs running on each. Calves born on property one should be placed into a separate birth management group to calves born on property two.
- Some pregnant cows are out on agistment, while the rest remain on the home block. Calves born to the agistment mob should be placed into a different birth management group to those born to the home mob, even if the agistment mob has been brought home to calve.

An individual calf should also be placed into a separate birth management group if its birth weight and/or calving difficulty

score has been affected by special circumstances, such as being premature, or its dam having been sick prior to calving.

If you are in any doubt as to whether you should assign birth management groups in a given scenario, please contact staff at your BREEDPLAN processing centre to discuss your situation.

Scan the QR code or click here to view a short video on birth management groups

(ii) Post-Birth Management Groups

The post-birth management group allows breeders to identify animals that have received different treatment and/or management following birth that may have influenced their performance. This treatment may be intentional (e.g. when some of your young bulls receive supplementary feeding and others do not) or unintentional (e.g. when a calf is sick).

Animals should be assigned into different post-birth management groups in any situation where, either individually or as a group, they have not had equal opportunity to perform.

Common examples include:

- Where an animal or its mother has been sick or injured and this has affected its performance.
- Where a subset of calves are being supplementary fed and others are not. For example, the show and/or sale teams.
- Where some animals are given growth promotants and others are not.
- Where calves are running in paddocks of differing nutritional value. Please use your judgement when assigning management groups to calves running in different paddocks; if the two paddocks are separated by a fence line and are otherwise very similar, you may decide not to separate calves in these two paddocks into different management groups. However, calves running in paddocks that are clearly different should be placed into separate post-birth management groups.
- Where calves are running together as a single mob but were born on different properties. For example, in situations where an individual producer owns multiple properties or where a producer has had a subset of animals out on agistment which have since returned home. In such a scenario, calves should be split into post-birth management groups that reflect their property of birth as the differences in their early months of life are likely to have affected their later performance.
- Where a bull has been fighting and has clearly lost weight prior to recording.

- Where some yearling bulls have been used for mating and others have not.
- When some heifers are preg tested in calf (PTIC) and others are empty. In addition, PTIC heifers should only be placed in the same management group if they are at a similar stage of pregnancy (see the Recording Performance Data from Pregnant Heifers tip sheet, available in the Help Centre on the BREEDPLAN website).
- Where some heifers are spayed, and others are not.
- Where animals have been weighed on different scales.
- As the BREEDPLAN analysis assumes that twins are raised as twins, any twin that has been raised as a single calf (i.e. stayed on mum while its sibling was fostered or hand-raised) should be placed into a separate post-birth management group to twin calves that were raised as twins. Fostered and hand-raised poddy calves should also be placed into their own post-birth management groups. Producers with lots of twin, foster and/or poddy calves are encouraged to contact their BREEDPLAN processing centre for specific advice as management grouping in these situations can be complex.

If you are in any doubt as to whether you should assign post-birth management groups in a given scenario, please contact staff at your BREEDPLAN processing centre to discuss your situation.

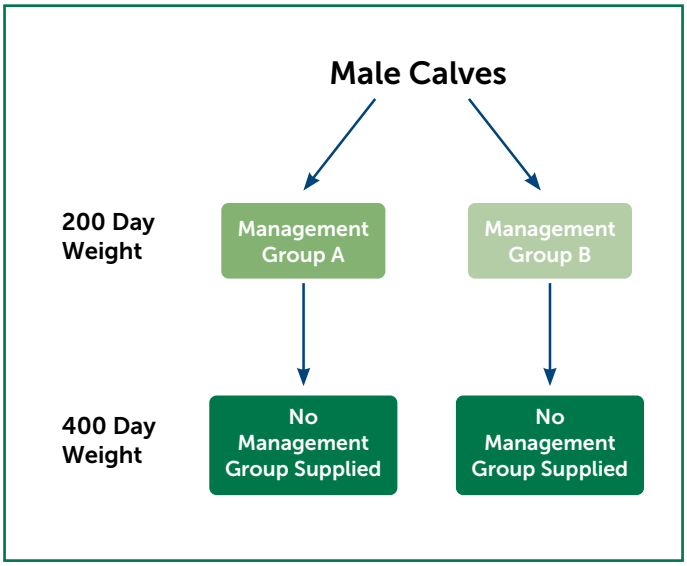
Scan the QR code or click here to view a short video on post-birth management groups

Other Considerations

- Management groups can be up to three digits in length. They can consist of letters, numbers or a combination. Some producers will choose to use an abbreviation of the paddock or property name, while others will use numbers

or letters in a sequential order. You should use whichever combination makes the most sense to you.

- Animals should only be split into different management groups when there has been different treatment and/or management that has impacted their performance. Calves that are running together and exposed to the same environmental conditions should not be sub-grouped solely because of their horn/poll status or coat colour.
- Birth management groups only impact on the contemporary group formation for birth traits (i.e. birth weight, calving ease). That is, they have no impact on contemporary group formation for post-birth traits (e.g. 200, 400 and 600 day weights).
- In contrast, post-birth management groups will impact on the contemporary group formation for the trait that the management group applies to and **any future post-birth performance traits**. Consider post-birth management groups to be like a tree; once the animals are split into separate management groups, they branch off and cannot come back together. In the example shown opposite, the male calves have been split into two post-birth management groups for their 200 day weights, A and B, and will be analysed in separate contemporary groups. Even if no management groups are submitted with their 400 day weights, they will continue to be analysed in separate contemporary groups for their 400 day weights **because of their 200 day weight management groups**. For this reason, it is recommended that if you do have to split calves into different mobs, you aim to keep them in the same mob (i.e. avoiding moving calves in and out of different mobs) until you have finished recording all of their post-birth performance.



For more information regarding management groups, please contact staff at your BREEDPLAN processing centre.

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Livestock Registering Federation

BREEDPLAN Top Tips: Associated Herds

BREEDPLAN uses a number of criteria to assign animals into contemporary groups; the premise is that non-genetic effects (e.g. feeding, years, season) on animal performance will be removed by only directly comparing animals which have had equal opportunity to perform (e.g. only comparing animals running under the same environment). One of the factors that BREEDPLAN considers when automatically forming contemporary groups is herd; only animals that have been bred and run together in the same herd will be directly compared in the same contemporary group.

While differentiation on the basis of herd is straightforward for the majority of BREEDPLAN users, there are some instances when animals from two different herds are running together on the same property. The most common example of this is where members of a family (e.g. children) have a small number of animals registered in their own name that run as part of the main herd on the property. Occasionally, situations arise where two adults are operating their own herds on the same property (for example, one adult may be agisting their cattle on the property of a larger herd). In such situations, the herds can opt to "associate" the two herds for BREEDPLAN purposes. This effectively treats animals the "associated" herds as if they are from the same herd, allowing them to directly compared within the same contemporary group.

There are several things that those choosing to "associate" two herds for BREEDPLAN purposes should be aware of:

1. One of the herds will need to be nominated as the "primary" herd for BREEDPLAN purposes. Only the primary herd needs to enrol in BREEDPLAN. Animals that are owned by the associated herd/s will then be treated by BREEDPLAN as if they are in the ownership of the primary herd (even though they are owned by different herds with the breed society). The primary herd will be the main point of contact for BREEDPLAN. Additionally, only the primary BREEDPLAN herd will receive BREEDPLAN reports (these will include information on animals in both the primary and secondary herds).
2. Optionally, a start date for the "association" of the two herds can be provided. This is useful in situations where the two herds used to be managed independently but have only recently started running together. Only animals born after this start date will be analysed together.
3. Finally, in situations where the two herds are no longer associated (e.g. children moving out of home and taking their own herd with them), an end date should be provided to BREEDPLAN. This is ideal as it means that performance data submitted for the two herds prior to the end date can still be analysed together, but any new performance data (from the period where the two herds are no longer associated) will not be.

We highly recommend that all "associated" herds review their situation to ensure that they should still be considered "associated" for BREEDPLAN purposes. If this is no longer the case, please contact your BREEDPLAN processing centre to amend this information.

HerdMASTER training course, Centurion (2022). Photo credit: Livestock Registering Federation.

Improvements to Completeness of Performance Reports

The "Completeness of Performance" herd rating system assesses the quantity of the pedigree and performance information that has been submitted to BREEDPLAN by an individual herd. Data quantity is a key factor in determining the accuracy of the resultant BREEDPLAN EBVs, and the subsequent genetic progress that a herd can make.

There are two components of the Completeness of Performance herd rating system:

1) **The Completeness of Performance star rating:** This provides producers with an assessment of how much pedigree and performance has been submitted to BREEDPLAN by a herd. The star rating is an average of annual herd ratings over a five-year period. This five-year period is updated every year after the July BREEDPLAN evaluation.

2) **The Completeness of Performance herd report:** This report allows herd to review that data that they have submitted to BREEDPLAN. Breeders are encouraged to check their Completeness of Performance reports at regular intervals to identify:

a) Gaps in the data submitted to BREEDPLAN (see example opposite). This is particularly useful where the breeder knows that the trait was recorded but may have forgotten to submit it to BREEDPLAN. As BREEDPLAN will accept historical data, any missing data can still be submitted.

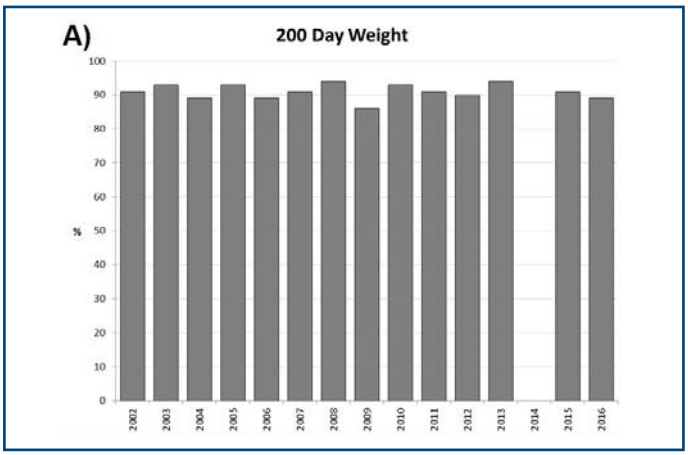
b) Any traits not currently recorded by the breeder. These may be traits that the breeder chooses to start recording in the future.

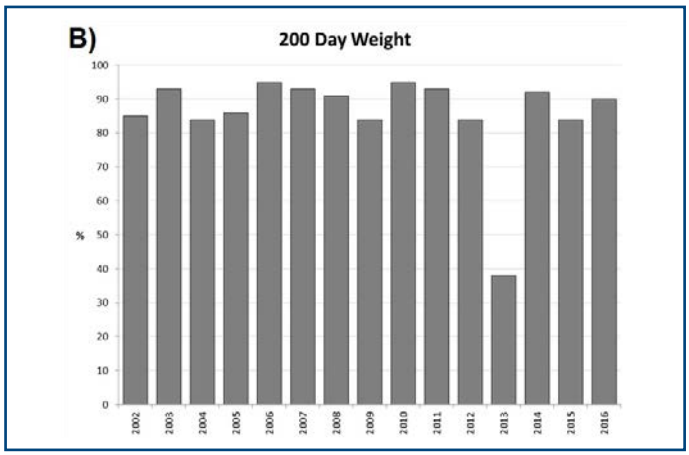
Recently, the Completeness of Performance herd report has been updated to include information on abattoir carcase trait recording levels for the individual herd. Producers may now notice that the Carcase section (pages 12-15), which previously included statistics on Eye Muscle Area, Rib Fat, Rump Fat and Intramuscular Fat (IMF) collected via live animal ultrasound scanning, has been updated

Completeness of Performance
CARCASE

Calving Year	Sex	Animals	Scan EMA		Scan Rib Fat		Scan Rump Fat		Scan IMF		Carc Wt		Carc MS		Carc EMA		Carc Rib Fat		Carc Rump Fat	
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
2008	F	198	183	92%	183	92%	183	92%	183	92%	0	0%	0	0%	0	0%	0	0%	0	0%
2008	M	241	185	77%	185	77%	185	77%	185	77%	0	0%	0	0%	0	0%	0	0%	0	0%
2009	F	229	200	87%	200	87%	200	87%	200	87%	0	0%	0	0%	0	0%	0	0%	0	0%
2009	M	257	162	63%	162	63%	162	63%	162	63%	0	0%	0	0%	0	0%	0	0%	0	0%
2010	F	213	199	93%	199	93%	199	93%	198	93%	0	0%	0	0%	0	0%	0	0%	0	0%
2010	M	247	180	73%	180	73%	180	73%	179	72%	0	0%	0	0%	0	0%	0	0%	0	0%
2011	F	257	241	94%	240	93%	241	94%	241	94%	0	0%	0	0%	0	0%	0	0%	0	0%
2011	M	249	195	78%	195	78%	195	78%	194	78%	17	7%	17	7%	17	7%	17	7%	0	0%
2012	F	242	202	83%	202	83%	202	83%	201	83%	0	0%	0	0%	0	0%	0	0%	0	0%
2012	M	280	211	75%	211	75%	211	75%	211	75%	23	8%	23	8%	23	8%	23	8%	0	0%
2013	F	303	272	90%	271	89%	272	90%	271	89%	0	0%	0	0%	0	0%	0	0%	0	0%
2013	M	274	175	64%	174	64%	175	64%	174	64%	21	8%	21	8%	21	8%	21	8%	20	7%
2014	F	291	244	84%	244	84%	244	84%	244	84%	0	0%	0	0%	0	0%	0	0%	0	0%
2014	M	291	197	68%	194	67%	198	68%	199	68%	25	9%	24	8%	24	8%	25	9%	25	9%
2015	F	345	306	89%	305	88%	306	89%	306	89%	0	0%	0	0%	0	0%	0	0%	0	0%
2015	M	313	227	73%	227	73%	227	73%	225	72%	0	0%	0	0%	0	0%	0	0%	0	0%
2016	F	304	273	90%	273	90%	273	90%	273	90%	0	0%	0	0%	0	0%	0	0%	0	0%
2016	M	307	212	69%	212	69%	212	69%	212	69%	0	0%	0	0%	0	0%	0	0%	0	0%
2017	F	319	209	66%	209	66%	209	66%	209	66%	0	0%	0	0%	0	0%	0	0%	0	0%
2017	M	323	233	72%	233	72%	233	72%	233	72%	0	0%	0	0%	0	0%	0	0%	0	0%
2018	F	310	266	86%	266	86%	266	86%	266	86%	0	0%	0	0%	0	0%	0	0%	0	0%
2018	M	334	261	78%	261	78%	261	78%	261	78%	0	0%	0	0%	0	0%	0	0%	0	0%
2019	F	285	259	91%	259	91%	259	91%	259	91%	0	0%	0	0%	0	0%	0	0%	0	0%
2019	M	293	212	72%	212	72%	212	72%	212	72%	0	0%	0	0%	0	0%	0	0%	0	0%
2020	F	302	278	92%	278	92%	278	92%	278	92%	0	0%	0	0%	0	0%	0	0%	0	0%
2020	M	307	240	78%	240	78%	240	78%	240	78%	0	0%	0	0%	0	0%	0	0%	0	0%
2021	F	317	280	88%	281	89%	281	89%	281	89%	0	0%	0	0%	0	0%	0	0%	0	0%
2021	M	308	239	78%	239	78%	239	78%	237	77%	0	0%	0	0%	0	0%	0	0%	0	0%
2022	F	334	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
2022	M	350	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%

Completeness of Performance reports have recently been updated to include abattoir carcase traits.





Completeness of Performance reports allow producers to identify "gaps" in the data submitted to BREEDPLAN; both where A) an entire calving year cohort or B) a partial calving year cohort (e.g. one sex) are missing data.

to also include additional statistics on Carcase Weight, Marble Score, Eye Muscle Area, Rib Fat and Rump Fat collected in abattoirs from carcases. For those producers that are collecting abattoir carcase data, this will provide a useful summary of the abattoir carcase data that has been submitted to BREEDPLAN.

More information on the Completeness of Performance herd rating system is available from the Help Centre on the BREEDPLAN website. This includes two videos on Understanding BREEDPLAN Completeness of Performance and Improving Your BREEDPLAN Completeness of Performance Star Rating.

A Brief Recent History of the Indigenous Nkone cattle of Zimbabwe

The History of the People is the History of their Cattle

George Hulme recently wrote an article titled 'A brief recent history of the indigenous Nkone cattle of Zimbabwe' where he descriptively elaborates on the impact of human movements on the Nkone cattle of Zimbabwe.

The article begins in 1823, emphasising the onset and continued cattle raids through southern Africa and how cattle have long been an asset to many people. In conclusion, George Hulme presents the current status of Nkone cattle and how their value should not only be realised, but also preserved.

To read the full article please visit the LRF LinkedIn page.

BY GEORGE HULME - AUGUST 2022

Nkone cattle.
Photo credit: Troy Maidwell.

NEWS FROM THE BRAHMAN SOCIETY OF SOUTH AFRICA

The first week of our trip to the World Brahman Congress in Paraguay 2022 was spent at the EXPO Showgrounds. The Brahman judging took place over four days.

Sietze and I were received with gracious hospitality and were welcomed in Paraguay. Spanish was a challenge, but we were able to communicate through sign language and broken English. I was extremely impressed by Mr Steve Hudgins' judging of the Brahman Cattle. He chose functional cattle with good beef. We had the honour of attending the Sale of the Champions which was an experience I will never forget - people were singing, cheering, and clapping while the bidding continued.

At the World Brahman Federation meeting, there had been a huge change in thought and structure; it is now going to promote and market Brahman worldwide. A platform has been created to upload articles of interest and research results so all countries can have access to them for publication.

My highlight was the 3 days spent in the "CHACO" on the ranch visits. This is a tough environment, with low rainfall and extremely hot climate. The hardiness and adaptability

The World Brahman Congress, Paraguay 2022.
Photo credit: The Brahman Society of South Africa.

of the Brahman once again showed to be a winner! The cattle were excellent and typical of what we look for in South Africa. Early maturing, medium-framed cattle.

We were quite disappointed that there are no protocols between South America and Africa, but through meeting people and making contacts, we are going to try and change this. *It was truly an honour and a privilege to see the excellent quality of this country's cattle.*

BY THE BRAHMAN SOCIETY OF SOUTH ARICA
COMPILED FROM WAYNE PORTER'S REPORT

NEWS FROM THE SIMBRA SOCIETY OF SOUTHERN AFRICA

The Simbra Cattle Breeders Society of Southern Africa (Simbra SA) is committed to providing quality service and leadership that promotes genetic progress not only within in the breed, but in the industry as well.

We have identified a number of key focus areas that form part of our Simbra Strategic Plan, these include Market Demand and Relations, Natural Resource Management, Animal Welfare, Productivity and Efficiency and Research and Development. Research and Development forms and integral part of the strategic plan and involves training courses, information days and continuous professional development programs. As part of this program Simbra has compiled a breeder's manual, as well as an inspectors' and judges' manual which form part of our training material.

In the past year Simbra hosted 17 information days and training courses across South Africa and Namibia. We believe that ALL livestock producers should be offered the opportunity to learn from and engage with industry representatives, one such opportunity was a developing farmers information day, hosted by Simbra SA, the Agricultural Research Council (ARC) and Department of Agriculture and Rural Development. The day was well attended by a total of

Developing Farmers Information Day, 2022.
Photo credit: The Simbra Society of Southern Africa.

71 farmers and was considered a great success. So much so, that Simbra has added it as an annual event to the Simbra calendar, this year it will be hosted in August.

We encourage all stud breeders and beef producers to contact us to arrange for assistance with their beef information days – allow us to assist you in turning your beef business into a more profitable enterprise based off of experience and scientific approach.

BY THE SIMBRA SOCIETY OF SOUTHERN AFRICA
MATTHEW KINGHORN

NEWS FROM THE BRAFORD SOCIETY OF SOUTH AFRICA

The Braford Breed is in accordance with a worldwide trend, one of many synthetic breeds that were originally developed in Australia in 1946. By means of crossbreeding between the Brahman and Hereford, the best characteristics of these breeds were combined to establish this new breed.

The first cross-breeding in South Africa was done in the seventies and the SA Braford Society was founded in 1997. Currently there are approximately 5,500 registered females on the Breedplan system and the breed is growing rapidly.

Brafords are highly fertile, early maturing, adaptable medium frame beef cattle that will produce and reproduce under all conditions in RSA. Brafords also have exceptional maternal qualities, calving ease, high weaning percentages and a good feed conversion ratio.In a recent study at a commercial feedlot, it was found that Braford ewes compare with the best of the best in RSA in terms of daily growth, yield percentage and meat quality. The Society as a whole aims to achieve an average calving period of 400 days. Braford bulls have exceptional libido and strict selection is done on scrotal circumference.

The Braford is a medium-framed cattle that produces calves with average birth weights between 30kg - 36kg and weaning weights in the region of 170kg - 270kg, which represents 45-50% of the cow's weight at weaning.

Braford cattle. Photo credit: The Braford Society of South Africa.

The winning combination of top Hereford and Brahman genes enables the Braford to adapt, reproduce and thrive in different environmental conditions, ranging from extreme cold, wet and dry environments. Braford breeders are currently found in all the provinces of South Africa.

Brafords are therefore the versatile field and feedlot meat breed of choice.

Contact: Braford office, Marguerite Fouche on 0725944500 or info@braford.co.za

Website: www.braford.co.za

BY THE BRAFORD SOCIETY OF SOUTH AFRICA

Zimbabwe Herd Book (ZHB) Beef School 2022

A capacity attendance of 160 beef producers and service suppliers attended the Beef School this year where the theme was 'Financial Sustainability in Beef Cattle Production'. The event was once again held at Mystique Conference Centre in Bulawayo 20th to 22nd September and was the first School for 90 (56%) attendees. A total of 23 presentations were given by local, regional and international speakers. Attendees note the most pertinent presentations were on grazing management.

Participants appreciated the deboning of the hind quarter, kindly donated by Grills, by blockman Fungai Nyagwande, supported by Chef Ryan Warham with display and discussion on the various cuts that were specially prepared for the luncheon and dinner.

Zimbabwe Herd Book presented its Awards for the second time in the categories of Housekeeping, Performance Recording and Fertility. After the awards ceremony, participants were once again treated with a pre-dinner stroll down memory lane by Dr Jackson who was honoured by an award in acknowledgement of his dedicated lifetime service to the livestock community.

To celebrate the 'Year of the Brahman', the Brahman Society led the discussion on their breed against a backdrop of a selection

Zimbabwe Beef School 2022. Photo credit: Zimbabwe Herdbook.

of stud Brahmans. The Nkone Society will show case their breed at next year's event.

The Herd Book thanks our generous sponsors who made the event possible: National Foods, Feedmix, Coopers, Windmill, Polachem, Profeeds, Grills, NMB Bank, Fivet and Agrifoods.

BY DR MARIO BEFFA - THE ZIMBABWE HERD BOOK

The LRF Welcomes Dr Mario Beffa and Jody Young to the Team

In the past year, the LRF has welcomed two new members to the LRF team, Dr Mario Beffa and Miss Jody Young.

Dr Mario Beffa was appointed on a part time basis to assist the LRF in the capacity of Acting CEO. He is currently based in Zimbabwe and has a background in animal breeding.

Dr Beffa's first employment was at Matopos Research Station in Zimbabwe where, as Chief Research Officer, he was responsible for the administration of cattle breeding research programmes. His involvement with a long-term selection and genotype x environment interaction study with grade Afrikaner cattle formed the basis of his doctorate that he obtained in 2005.

In 1999, Dr Beffa was appointed General Manager of the Livestock Identification Trust that successfully launched the Zimbabwe Cattle Traceability Scheme and in 2009 was also appointed the Manager of the Zimbabwe Herd Book, the registry for pedigree livestock in Zimbabwe. In 2010, the ZHB opted to use ILR2 and BREEDPLAN, and hence his involvement with the late Dr Bradfield and the LRF.

Miss Jody Young was also appointed on a part-time basis as technical assistant. Miss Young grew up in Port Elizabeth and moved to Pretoria to pursue her studies at the University of Pretoria where she graduated with a BScAgric Animal Science degree. In 2022, she served as a mentor in the UP Agric Feedlot Challenge, tutored undergraduate practicals and participated in the finals of the annual SASAS Student Quiz. Miss Young is currently busy with her MScAgric (Animal Science) degree in Production Physiology and Product Quality.

Please feel free to contact Dr Beffa (mario@lrf.co.za) or Miss Young (jody@lrf.co.za) on any LRF related matter.

BY IZAAN DU PLOOY - LIVESTOCK REGISTERING FEDERATION

NEWS FROM NAMIBIA

The Year 2023 is rushing on at pace and we find ourselves at the end of the first quarter of the year. The 2022/23 raining season has thus far been a bit of a hit and miss situation. For most of the country the rainfall received thus far, is far below the average..

It is especially the eastern and southern parts of the country that is experiencing serious problems regarding low rainfall and the availability of grazing. The cyclones that have been active in the Indian Channel, largely contributed towards this situation. One of the biggest concerns are that, even though grazing in certain areas are adequate, very little inflow of water has been recorded into dams; both to the big dams supplying water to the cities and towns, but even more so in the case of farm dams, that feed the underground water reserves.

After the Aldam Stockman School during October 2022, Catriona Millen, from ABRI, who was a guest speaker at the School, travelled to Namibia where she presented two presentations at the Annual Brahman Symposium, and the day there after presented training to a total of 21 staff members and interested breeders. This training was very well received.

Some positive developments transpired during the past year regarding EBV analysis for some of the breeds. The South African and Namibian Wagyu Societies now receive a combined monthly EBV Run. After deliberations during the LRF Meeting in February 2023, ABRI will be requested to incorporate the Selection Indexes used by the South African Society, for the Namibian Society as well.

During February 2023 Dr Brad Crooke informed the LRF, NSBA and Zimbabwe Herd Book of some changes to come. As from February 2023 the Namibian Hereford Society's data will be fully incorporated into the World Wide Hereford Single-Step Analysis (the available Namibian genomic data will also be included), the Namibian and Zimbabwean Boran Breed Societies will receive a combined monthly EBV analysis. Furthermore the data of the Namibian, South African and Zimbabwean Brahman societies will be incorporated into a Single-Step Analysis test run, to determine whether it is possible to provide g-EBV's. The same will happen for the Namibian and South African Limousin Societies.

Namibian and South African Breed Societies are waiting with baited breaths on the outcome of the deliberations concerning Phase II of the BGP Project. The participating breeds are all looking forward to continuing with the project, which will enable them to get closer to their goal of Single-Step analysis and the producing of g-EBV's.

BY JACQUE ELS - NAMIBIAN STUD BREEDERS ASSOCIATION

LRF CALENDAR 2023

April	**18 - 19**	**Animal Breeding Diploma course for Livestock Producers - Bloemfontein**
	20	**HerdMASTER Course - Bloemfontein**
	25	**BREEDPLAN Course - Namibia**
	26	**HerdMASTER Course - Namibia**
May	**5**	**HerdMASTER Course - George**
June	**14**	**LRF Members Meeting - LRF office (Centurion)**
	30	**Request for making use of LRF scanning services in second half of the year closes**
August	**23**	**BREEDPLAN Course - Pretoria**
	24	**HerdMASTER Course - Pretoria**
September	**19-21**	**Zimbabwe Beef School**
October	**10**	**LRF Members Meeting - Aldam**
	11-13	**LRF Stockman School**

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.