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NZ Herefords 75 South Street Feilding 4702

- **6** 06 323 0745
- **6** 06 323 4484 PBB Office
- office@herefords.co.nz
- **f** @NZHerefords
- @nzherefords
- www.herefords.co.nz



## **WELCOME**

Welcome to NZ Herefords. We are an inclusive and progressive organisation that is focused on our mission of enabling breeders, farmers and consumers to experience the benefits of the Hereford breed.

Our vision is for the Hereford breed to drive
New Zealand beef performance and profitability.
The best way we can accomplish this is for every
member to play their part and record pedigrees,
weights and traits and genomically test their
animals. This creates the opportunity to genetically
select performance recorded animals and sets
registered Hereford breeders apart from their
counterparts, the commercial farmer.

The current NZ Herefords strategic plan can be found on the NZ Herefords website and I encourage you to read this.

Our NZ Herefords family includes NZ Hereford Youth and our very own branded beef programme, Hereford Prime. In addition, NZ Herefords run a hybrid vigour promotion called HerefordX. You'll learn about these sub-brands and the history of NZ Herefords in the subsequent pages but I encourage you to find out more on our website, where you will also find a wealth of additional resources.

I hope you find this booklet useful. If you have any further questions, please get in touch with me on the details below.

#### **Posy Moody**

NZ Herefords General Manager posy@herefords.co.nz 06 323 0745

NZ Herefords Member Guide





## NZ Hereford Youth

NZ Hereford Youth encourages and supports the future breeders and leaders in the New Zealand beef industry by offering fun events and opportunities to further the knowledge and skills of youth under the age of 30.

Annually a Youth Development weekend is organised which offers Hereford Youth members an opportunity to get together and have fun. It caters for all levels of experience and ages.

In the past few years, groups of NZ Hereford Youth have attended various team events in Australia and competed in the World Hereford Conference.

youth@herefords.co.nz

f @nzherefordyouth

## Hereford X

The best of breeds

HerefordX is the successful marketing campaign that highlights the many benefits of hybrid vigour (heterosis) in both the dairy and beef industries. B+LNZ Genetics has run tests for many years that confirm increased fertility, superior growth rates and hardiness gained from hybrid vigour, ultimately providing financial gain for farmers.

Because Hereford is a long-established breed that is more homozygous than most (bred from a narrow-based population with the fewest number of other breeds introduced into the population), when you do use Herefords in a cross-breeding programme, the heterozygosity achieved is significantly better than other breeds.





## Hereford PRIME

Hereford Prime NZ is NZ Herefords' grass-fed branded beef programme. Launched in the early 1990s to supply the quality beef carcasses demanded by the high-end domestic beef market.

Cattle eligible for the programme must be pure-bred Hereford or a first cross Hereford British beef breed (Hereford Friesian first cross is also eligible in the Waikato). Steers or heifers must be free from added growth promotants. Every Hereford Prime carcass is hand-graded and measured for pH levels, meat colour, fat colour and marbling, before being aged for a minimum of 21 days.

By using the technology available within BreedPlan, growth and carcass trait analysis and real-time ultrasound scanning, Hereford Prime can identify the genetics and bloodlines of the animals that meet the criteria for quality beef.

To find out more about the programme and its benefits visit:

www.herefordprime.co.nz

or email herefordprime@pbbnz.com



NZ Herefords employs PBB (Performance Beef Breeders) to provide registry, financial, tag and DNA services for our breeders. PBB also has a graphic design business which many of our breeders use.

The roles of PBB and NZ Herefords can sometimes confuse new breeders, as both organisations share office space and work closely together to provide a seamless service to meet all of your requirements. PBB and NZ Herefords have a contract with ABRI (Agricultural Business Research Institute) to provide the software "Internet Solutions", visible on NZ Herefords website and BreedPlan.

BreedPlan uses an advanced genetic evaluation system to produce Estimated Breeding Values (EBVs) of recorded cattle.

www.pbbnz.com

NZ Herefords Member Guide

## I'M A MEMBER, **NOW WHAT?**

This step-by-step guide below is to assist you, however the order you complete the steps may alter depending on what time of year and at what age you bought your registered Herefords.



#### 1) Transfer purchased animals

When you purchase registered animals from a Hereford breeder, the vendor must complete a transfer form within 30 days of sale and submit it to PBB registry. The fees for the transfer are paid by you, the purchaser. You will be invoiced by PBB.

Make sure you confirm with the vendor that your registered Herefords have been transferred to you once purchased.

## (2) Choose a software programme

To record your animals, you will need to use a software programme. Here are some options:

**Internet Solutions** is a great tool for breeders and has loads of reports you can download as needed. This programme is most suited to breeders with smaller herd sizes (fewer than 100) and first-time breeders.

**Stockbook** is more suited to the larger herds. Stockbook is your one-stop-shop for all your livestock and on-farm management recording. It has a raft of BreedPlan user-friendly features that are compatible with SIL and NAIT. This means providing information to PBB's registry is easy and paperless. You can look up and enter information on the Stockhand app on your phone in the paddock, even if you're not connected to the internet. It'll automatically sync when you're back in wifi range.

Contact PBB, who will assist you with your login details and support for Internet Solutions.



06 323 4484

## (3) Record your animals' traits

As a member of NZ Herefords, we recommend you record the traits for all of your animals using the software programme you selected in Step 1. Our performance recording timeline on page 8 will assist you. By having recorded information on each animal, Estimated Breeding Values (EBVs) can be calculated. Hereford breeders use EBVs to make genetic selection, which gives them an edge over commercial farmers.

## (4) Calf registration forms

These must be submitted by 30 April annually. Late registration fees apply from 1 May.

Refer to the "How to Register Calves online 2 minute tutorial' on the NZ Herefords website.



registry@pbbnz.com





#### 5 Active Dam List (ADL)

An ADL is a list detailing each active female in your herd over 2 years. NZ Herefords use this list to bill annual female fees. It is your responsibility to confirm the fate of your cows annually. The ADL is to be returned to PBB by 1 June each year and failure to cull any females from the list will result in you being charged for them. You may find it useful to inform PBB's registry throughout the year as you fate off dams, especially during calving. There is also a field when you complete your calf entries where you can fate off a dam.

You will find an ADL tip sheet on our website, which explains the process further.

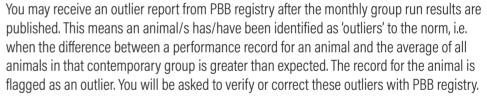
## 6 Monthly group run

This is when you submit new data collected from your animals every month. The data is added to the existing data and the Trans-Tasman analysis (using all of NZ Herefords data and Australian Herefords data) is then refreshed. Your data for animals needs to be submitted to PBB by the third day of each month. Normally results are published and updated on Internet Solutions (visible on the NZ Herefords website) for you to view around the 20th day of the same month. This will create new Estimated Breeding Values (EBVs) for your herd, and it is also when the breed averages will change.



Note: You may only have data to submit some months of the year due to your farming calendar e.g. after weighing or calving.

## 7 Outlier report



If you do not correct or verify the outlier record, the record will be removed from all future group BreedPlan analyses by ABRI.

## (8) SNP DNA testing

SNP DNA testing is a requirement for many of our NZ Hereford rules, including transfer, registering progeny and importation. For more information and to request DNA tests, refer to the NZ Herefords website or email the below address.

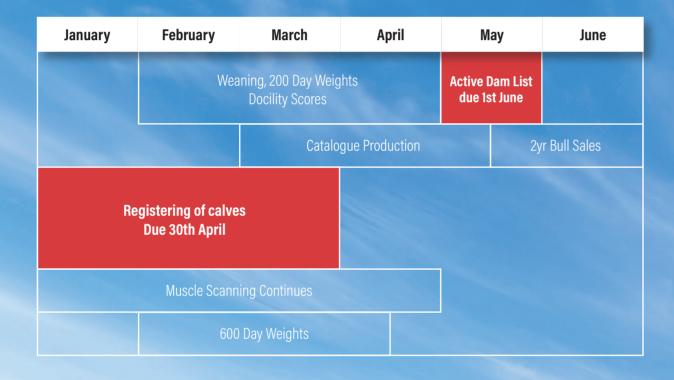
It is important to regularly check the 'Rules and Regulations' tab on our NZ Herefords website to confirm you are meeting the current requirements.





## PERFORMANCE RECORDING CALENDAR

The following calendar details the performance information that currently contributes to the calculation of BreedPlan Estimated Breeding Values (EBV's) and outlines the stage of the production cycle that each set of information should be recorded.



\*\* NZ Herefords members are encouraged to record all the traits for each animal to provide the most accurate results, however it is not mandatory.

July	August	September	October		November	December
					Mating (Bull go out or AI)	
Catalogue Production Yearling Bull Sales						
Calving				Registering of Calves		
400 Day Weights Structural Assessment  Muscle Scanning Starts						
				-6	-	





## OUR HISTORY

NZ Herefords is an incorporated society that was formed in 1896.

The very first importations of pedigree Herefords arrived in New Zealand from England by sailing ship in 1869. They were brought in by R & E McLean of Bleak House, Howick, Auckland. The first imported polled Hereford was recorded in 1929.

There are now approximately 20,000 performance recorded Hereford females in our New Zealand registry and 350 NZ Herefords members.

New Zealand shares close links to Australian and North American Hereford associations. NZ Herefords has also been affiliated to the World Hereford Council since 1956 and we proudly hosted World Hereford Conferences in 1984 and 2020. NZ Herefords is governed by a voluntary council of between eight and 12 people that is responsible for setting policy and determining the future direction of the Hereford breed in New Zealand. Councillors represent the voice of NZ Herefords breeders nationwide and seek re-election on a two-year rotational basis. President, Vice-President and Treasurer positions are generally two year terms.

There are ten regional clubs in New Zealand that you are invited to join when you become a member of NZ Herefords. Seven of these are in the North Island and three in the South Island. In addition, there is a NZ Miniature Hereford Breeders Group that has rules and regulations that maintain strict criteria on eligibility to register as a Miniature Hereford breeder. For additional information regarding Miniature Herefords, please visit the NZ Herefords website.

Visit www.herefords.co.nz to find out more.



## HOW DO I PROMOTE MY STUD?

NZ Herefords can offer members advertising opportunities in a number of our marketing channels. These include:

· NZ Herefords bulk emails

More than 240 Hereford breeders have their email addresses lodged with NZ Herefords and regularly receive information via Mailchimp, the bulk email system we use. This is a great way to directly market to your fellow breeders.

 NZ Herefords member newsletter – Hooked on Herefords

Advertising in our quarterly newsletter is available to breeders. Copies are circulated to more than 450 members and industry related contacts.

· NZ Herefords magazine

Advertising space can be purchased in the annual Hereford magazine that is circulated in April. For detailed information, including prices and timelines, please refer to the NZ Herefords website.

- NZ Herefords Facebook and Instagram contains posts about events, industry related articles and information from breeders.
- Pivot Design is happy to assist with establishing a Facebook page for your stud.
- At bull sale time, PBB's design arm, Pivot Design, is kept very busy designing Sales Catalogues for our breeders. Some choose to just have a printed version of their catalogues available but Pivot Design can also create your sale catalogue as an interactive e-book that can be easily viewed, enlarged and printed at home. They are easy to distribute, and can contain video links and links to Internet Solutions. They're also able to be hosted on the NZ Herefords website, Internet Solutions, or on your own website.

Visit pivotdesign.co.nz to find out more.

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## RESOURCES

#### **NZ Herefords touchpoints**

#### Website

www.herefords.co.nz

Our website has two distinctive sections. The 'red' section references services from ABRI. This is your easiest access to Internet Solutions, where you can browse to find details regarding registered animals, breeders and studs, or you can log in.

Other places on the website which you will regularly access include the member services tab, which provides information such as the rules and regulations, and fees; the genomics tab, which is where you go to order DNA tests; and the technical information tab, where you will find the latest information on genetic conditions and progeny tests.



Follow us on Facebook (@NZHerefords) and Instagram (@nzherefords) to keep up to date with the latest sales results, events and NZ Herefords news.

### Bulk Email

Our NZ Herefords bulk emails inform you of deadlines, registration requirements, technical updates and events.

#### Member newsletters

Hooked on Herefords is our member newsletter informing you of the latest council decisions, regulations and technical updates, member news and upcoming events.



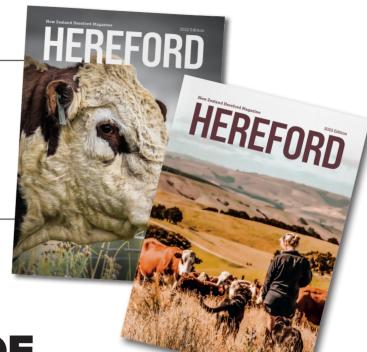
NZ Herefords events include herd tours, our AGM and field days. Every four years the World Hereford Conference is hosted by a different country which has traditionally been supported by many NZ Herefords' members. These are always fun events and a great way to get to know members and share ideas and knowledge.



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#### **Annual magazine**

Hereford is our yearly magazine which is distributed every April. It provides a great opportunity to advertise your sale/stud to commercial farmers and breeders.



# OTHER SOURCES OF INFORMATION



#### What is BreedPlan?

As a member of NZ Herefords, you are entitled to access BreedPlan. BreedPlan is a computer-based genetic evaluation system for cattle that generates Estimated Breeding Values (EBVs) for individual cattle based on performance measurements. EBVs are the bread and butter for registered breeders.

Their website offers excellent educational tip sheets and videos regarding EBVs and performance recording under the help centre tab.

breedplan.une.edu.au



#### **PBB** website

Visit the PBB website to order ear tags or DNA tests, and to arrange any marketing requirements through Pivot Design.

www.pbbnz.com



#### **Beef and Lamb Genetics**

https://www.blnzgenetics.com

B+LNZ Genetics conduct two beef related progeny tests, the Dairy Beef Progeny tests and the Beef Progeny tests. The dairy beef progeny test is designed to calculate the additional value that can be added by using high genetic merit beef bulls over dairy cows, while the beef progeny test compares a mix of NZ and International beef bulls including Herefords, under large scale commercial farming conditions. The results can be found here: https://www.blnzgenetics.com/progeny-tests/beef-progeny-tests

## **GLOSSARY**

**ABRI** – Dr Arthur Rickards established the Agricultural Business Research Institute (ABRI) from the University of New England (UNE) in 1968. Today ABRI provides NZ Herefords with the software tools for cattle registration and display of the EBV results.

**AGBU** – the Animal Genetics Breeding Unit was established at UNE to support ABRI with research and development, and has become a world leader in livestock genetics in its own right, while continuing to strengthen ABRI's capability.

**Autosomal recessive** is one of several ways that a trait, disorder, or disease can be passed down through families. An autosomal recessive disorder means two copies of an abnormal gene must be present in order for the disease or trait to develop.

**B+LNZ Genetics** - Beef + Lamb New Zealand Genetics.

**Bolt** - Helical's genetic evaluation tool used by IGS and American Hereford Association.

**Breed average** – you are able to compare an EBV to the current breed average. This will give you an indication of how the animal compares with the current genetic level for the breed for each trait. A set of breed average EBVs should be enclosed in all BreedPlan reports and sale catalogues, as well as through your breed's EBV enquiry.

**BreedObject** is the ABRI programme that creates selection indexes by combining BreedPlan EBVs into a single value which allows producers to identify animals that are most profitable in a given production system.

BreedPlan was introduced in 1985 and is the current across-herd evaluation which NZ Herefords use to create the EBVs.

**DNA** – deoxyribonucleic acid is the carrier of genetic information.

Estimated Breeding Values (EBVs) is the estimated genetic merit of an animal for each recorded production trait.

**Genetic conditions** (GC) – also referred to as genetic defects or genetic abnormalities.

Listed below are the genetic conditions that have been found in NZ Herefords animals. Refer to the NZ Herefords website for more information.

- **Hypotrichosis** (HY)– is an autosomal recessive trait that results in loss of hair.
- Idiopathic epilepsy (IE) is an autosomal recessive trait that starts with animals lying on their side with limbs extended in a rigid state, followed by seizures.
- Maple syrup urine disease (MSUD) is an autosomal recessive trait that results in calves that are born showing symptoms of slowness and dullness, progressing to throwing their heads back and lying on their sides, unable to rise.
- Mandibulofacial dysostosis (MD) is an autosomal recessive trait where the calf is born with facial deformities.
- **Diluter** (DL) gene is a dominant gene, so when a Hereford carrier is mated to an animal with black pigment e.g. a Friesian or an Angus, 50% of cases will produce offspring with a diluted coat colour.

**Genome** – the genetic material of an organism.

**Genomics** – the study of the genome.

**Genotype** is the genetic makeup of an animal. This can be tested using a Single Nucleotide Polymorphism (SNP) DNA test. Genomic SNP tests are available through PBB with information on the genomics tab of the NZ Herefords website. Below are the terms and codes we use for horn/poll genomic results.

- Homozygous Polled PcPc, PcPf, PfPf a true polled animal and will only produce polled (or scurred) calves.
   They will not produce horned calves.
- **Heterozygous Polled** HPc or HPf animal is polled or scurred and carries a polled and horned gene and can produce polled, horned (or scurred) calves.
- Homozygous Horned HH the animal is horned and can produce horned, polled or scurred calves.

Helical Company – allows collation and reporting of phenotypic and genomic data including parentage analysis.

IGS - International Genetic Solutions - manages a large multi-breed beef cattle evaluation.

**Interbreeding** is the mating of animals that are more closely related than the average degree of relationship within the population.

**Line breeding** is the strategic use of interbreeding to improve traits found in one family line.

**Microsatellite** – also referred to as a MIP, was the first type of DNA testing available to breeders.

**Outbreeding** is the opposite of inbreeding i.e increasing the number of heterozygous pairs.

**Outlier** – may refer to an animal that is significantly genetically superior/inferior to their contemporaries.

An **Outlier Report** highlights potential data recording errors that may have occurred. For example, incorrect measurements may have been recorded, incorrect animal details may have been recorded (eg. date of birth, sex), or animals may have been placed in an incorrect contemporary group.

A **Percentile Bands Table** allows you to compare the animal's EBVs and assess exactly where the animal ranks within the breed for each trait.

**Phenotype** of an animal refers to the physical characteristics of that animal – what we see. For information on structural soundness, visit the NZ Herefords website. These are the codes we use to record horn status: H – horned; P – polled; J – pure horned and S –scurred.

**Reference Population** is the set of Hereford animals within the Hereford BreedPlan analysis that have both genotypes (SNP data) and phenotypes (performance records) for a particular trait.

**Single-Step BreedPlan** uses genomic (DNA) information in addition to the pedigree and performance information used in a traditional BreedPlan analysis. The analysis takes account of each animal's actual genetic relationship based on its genotype with all other genotyped animals, including those in the reference population.

**SNP** - Single Nucleotide Polymorphism referred to as SNPs (pronounced SNIPS) are DNA markers.

**TransTasman BreedPlan Analysis**, combining data from Australian and New Zealand breed societies in a single analysis.

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