

## SELECTION INDEXES Q & A:

### **My animal has changed in index value and ranking. Why has this occurred?**

Each of the indexes have been updated to reflect the latest research in livestock production systems, the genetic progress that has occurred in NZ Hereford and changes in the prices received/costs of production since they were last updated. As a consequence, the valuation of each animal via the indexes has changed.

### **What trait is weighted more significantly than others in the past indexes?**

Hereford Prime Index – Changes from the previous Hereford Prime Index include an increased emphasis on improving cow fertility (Days To Calving) and reducing cow feed costs via Mature Cow Weight. This has come at the cost of a slight reduction in emphasis applied to the calving ease traits which has been made possible by the improvement in Calving Ease genetic trend in NZ Herefords over the last 10 years.

Beef Heifer Index – new index targeting the mating of Hereford or other British breed heifers. Replacement heifers are intended to be retained for breeding so maternal traits are important, as well as the necessary growth and carcase traits for steers.

Dairy Beef Index – new index but broadly similar to the superseded Dairy Terminal Index. Changes from the Dairy Terminal Index include an increased emphasis on improving Intramuscular fat at the expense of a slight drop in growth. There was also an increased emphasis upon reducing birth weight.

### **Are NZ Herefords indexes comparable to Herefords Australia indexes?**

The NZ Herefords Indexes were created using the same BreedObject software and computer models as used to create the Herefords Australia Indexes. The same software will also be used to create indexes for other international Hereford Societies that use the BREEDPLAN genetic evaluation system. Additionally, the EBVs used to calculate both of the New Zealand and Australian indexes come from the same BREEDPLAN analysis which further aids compatibility.

What is different between the New Zealand and Australian selection indexes is the specific production systems that each selection index represents. This includes the costs of production and prices received that are included in the index calculation. Descriptions of the Herefords Australia Selection Indexes and the production systems they represent can be found at <https://breedplan.une.edu.au/interpreting-selection-indexes/interpreting-australian-hereford-selection-indexes/> Once the new indexes are fully implemented, breeders will be able to compare international Hereford selection indexes on NZ animals using the BreedObject website ([www.breedobject.com](http://www.breedobject.com)).

## **Is Gestation length included in the dairy beef index?**

Gestation length is included in all the new selection indexes as it forms a part of the calving ease component of the indexes. What isn't included is the value of extra days in milk in a dairy scenario as the software was designed to only model beef production and not dairy. For breeders and bull buyers seeking to place extra emphasis upon gestation length, it is advised to create a shortlist based on the Dairy Beef Index and then apply a secondary sort on gestation length (see the question on 'should selection indexes be the sole selection criteria').

## **Should selection indexes be used as the sole selection criteria?**

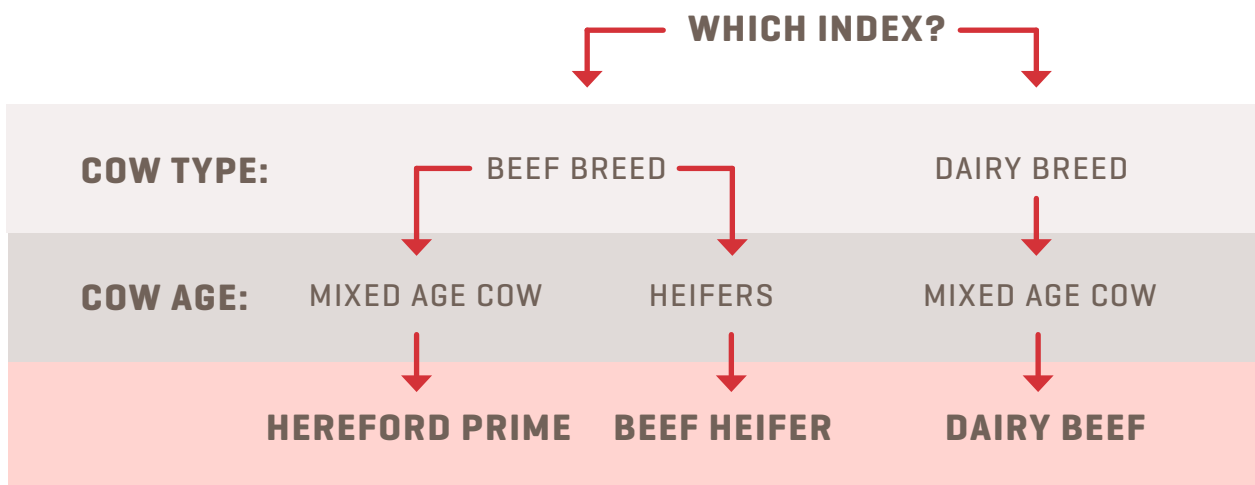
**NO!**

**The best practice guide to animal selection as recommended by BREEDPLAN is to follow these steps:**

1. Identify the selection index of most relevance to your or your client's breeding objectives.
2. Rank animals on the chosen selection index to create a shortlist. This can be done via the web search facility available for the breed.
3. Refine the shortlist by considering individual BREEDPLAN EBVs of importance. All breed level selection indexes are designed for a typical production system as specified in their description. This means that individual farm environments and management choices will potentially require that their own thresholds are applied. For example, if looking for a bull to use over heifers, particular attention should be paid to Calving Ease and Birth Weight EBVs.
4. Consider other traits of importance. Structure, fertility, temperament, genetic conditions and pedigree are all important additional considerations.

## How do I choose the best index to use in my herd?

Choose the index that matched your herds (or your clients) production system. The following decision tree can be used to simplify the decision.



## Why is there no Dairy Heifer Index?

BREEDPLAN and NZ Hereford did investigate selection indexes with larger emphasis placed on calving ease and birth weight so to be suitable for use over dairy heifers. The result was a selection index that almost single trait selected for calving ease. In this scenario, the benefits of a selection index is lost (the ability to balance multiple traits in a profitable manner) and a similar result is achieved by simply selecting on the relevant breeding values.