

AUSTRALIAN RED DAIRY BREEDS

Classification Committee's

Conformation, Optimums and Weights for the classification and Linear Trait Evaluations of Aussie Red dairy cattle, 2011

The ARDB Classification Committee would like to thank both HFAA classifiers, Andrea Henry and Richard Anderson and also Viking Classifier, Thure Bjerkentorp, for their valuable and professional input into the development of the new ARDB Conformation, Optimums and Weights for the classification and Linear Trait Evaluations of Australian Red Dairy Breed.

The process highlighted the recognition that both, the Australian Red Dairy Breed is a dairy breed in its own right, and with its own optimum breeding goals. And also that the external appearance of cows says it all, but of course, it does not. Functional traits aren't easily assessed via conformation.

With the Australian Red Dairy Breed being genetically a Scandinavian breed the words of Prof. Les Hansen are worth recapping on;

“ For many years now, I have consistently listed the Aussie Red breed as a legitimate member of the Nordic Red cluster of breeds in my international presentations (I have spoken in 22 countries over the past 5 years). In fact, Aussie Red is the only "Nordic Red" breed based outside the Nordic region of Europe. Yes, the input to the Aussie Red has been (and will continue to be) imported semen from the Viking Red (Swedish, Finnish, and Danish), Norwegian Red, and German Angler breeds.”

Like most European breeds, both the Scandinavian and Australian Red Dairy Breeds are rounder, less angular, carry more body condition and are slightly heavier in the bone than the Australian dairy producer is accustomed to.

However the endeavour of the ARDB is not to bend to aesthetics or industry and show ring perception, but to continue to lead the industry by utilising facts when breeding RED dairy cattle that have strong genetic links to Scandinavian Red dairy cattle. The ultimate aim of the ARDB is to breed functional, long living and profitable dairy cows for both the domestic and international dairy producer.

On page 2, you will see the Conformation, Optimum and Weights for both Aussie Red and Nordic cattle.

The Nordic is the actual Optimum and Weights that are used in Scandinavia
The AUSSIE RED 1# is the position we started at for Optimum and Weights, and the **AUSSIE RED 2#** are the new Optimum and Weights that have been adopted by the ARDB

The Optimum being the ideal score for a trait on a scale of 1 – 9

The Weight being the percentage of influence that is applied to the trait.

A cow that scores, either below or above the Optimum of a trait, receives fewer points in her overall type score.

You will note that in the table on page 2, some traits have more than one score as the optimum. These are explained on pages 3 onwards.

The International Linear Type guidelines are attached to help you understand the scoring system.

Conformation, Optimum and Weights for Aussie Red and Nordic cattle.

TRAIT	NORDIC		AUSSIE RED 1#		AUSSIE RED 2#	
RUMP	Optimum	Weight	Optimum	Weight	Optimum	Weight
Rump Angle	5	20	5	45	5	45
Pin Width	6	15	6	20	6	20
Loin Strength	9	25	9	35	9	35
Thurl placement #						
MAMMARY						
Udder Depth	9	20	6	20	5	20
Udder Texture	##	##	9	8	9	8
Median Suspensory	9	12	9	10	9	10
Fore Attachment	9	20	9	20	9	20
Front Teat Placem.	8	7	8	8	6	8
Rear Attach. Height	9	8	9	10	7, 8 & 9 Refer note1#	10
Rear Attach. Width	9	5	7	7	7, 8 & 9	7
Rear Teat Placeme.	5	8	5	10	5	10
Teat Lenght	5	5+5	5.5	7	5	7
FEET & LEGS						
Foot Angle	7	20	7	25	6 & 7	25
Heel Depth	##	##	8	15	8	15
Bone Quality	7.5	15	7& 8	10	5 6&7	10
Rear Legs-Side View	5	15	5	20	5	20
Rear Legs-Rear View	8	25	8	30	8	30
Locomotion #	##	##	##	##	##	##
DAIRY STRENGTH						
Stature	142cm	10	142cm	5	5, 6 & 7 Refer note2#	5
Muzzle Width	##	##	9	10	9	10
Chest Width	5.5	20	6	25	6,7 & 8	25
Body Depth	6	15	6	20	6&7	20
Angularity	5.5	10	6	10	7	10
Body Score Cond.#	##	##	##	##	##	##
Added traits to Dairy Strength Score						
Bone Quality	##	##	##	5	##	0
Udder Texture	##	##	##	5	##	10
Loin Strength	##	##	##	10	##	10

Summary of New Conformation, Optimum and Weights for the ARDB;

RUMP Section; As with each Trait section, (Rump, Mammary, Feet & Legs and Dairy Strength)

The Optimum of the individual trait is the ideal score at which we aim at when breeding for that particular trait.

The Weight is the weight given to the individual trait within each section, e.g.; Rump section Weights totals 100% etc.

Printing off and using the International Linear Type Guidelines as a reference will help understand both the Optimums and Weights arrived at by the ARDB.

Rump Angle; Optimum score 5, with the cow having a downward slope of 4cm from hip to pin.

Pin Width; With the knowledge that there is a negative correlation between pin width (rump width) and both fertility and longevity and as explained by Viking classifier Thure Bjerjentorp. The findings within Scandinavian Red cattle, is that the Red cattle with wider rumps tend to have a thickening in the pelvic bones and as such lose their elasticity during calving. The result being greater calving difficulties. Hence the Optimum of 6 being adopted by the ARDB, the same as that being used by the Nordic system and being around 19cm measured between the pins.

Loin Strength; Optimum 9 as per Nordic system

MAMMARY;

Udder Depth; 5 being Optimum which is the udder being 6cm above the hock.

Udder Texture; 9 being Optimum. Note; Udder Texture Weight is also included in Dairy Strength; hence it's Weight of only 8% in Mammary.

Median Suspensory; Optimum 9.

Fore Attachment; Optimum 9

Front Teat Placement; Optimum 6 was arrived at after much consultation.

NOTE 1#

Rear Attachment Height; Optimum 7, 8 & 9

Under both the International Linear Type guidelines and the Nordic system the score for Rear Attachment Height is arrived at by measuring the midpoint between the pins down to the hock, and the midpoint being a score of 5. This on average makes a score of 5 equal a point measuring 29.5 cm below the vulva. On the system we have currently been using, 29.5 would equal a score of 3. This may explain why in the past Rear Attachment Height has scored low on Aussie Red cattle.

With this knowledge the ARDB has adopted the policy for Rear Attachment Height with a score of 5 equalling 25 cm measured from below the vulva, 4.5 cm above that being used on Scandinavian cattle.

With the Optimum being a range of scores 7, 8 & 9. The Optimum in fact being a score of 7, and a measurement of 21cm or less below the vulva.

Under the scoring system, scores both above or below the Optimum are penalised in the overall Type score. In this situation the scores above 7 should not be penalised, hence the use of multiple scores as Optimum.

Rear Attachment Width; Optimum 7, 8 & 9

Scientifically the only breed that benefits from extra production as a result of wide Rear Attachment is the Jersey breed. For the other breeds it is largely for decoration. Hence this trait is given a low Weight. The actual Optimum for this trait is very difficult to arrive at due to the traits lack of influence on production, longevity or profit. The arrival at the multiple Optimums of 7, 8 & 9 are due to this trait being largely for ascetics and the need to ensure that the cows that score in this range are not penalised in the Overall Type score.

Rear Teat Placement; Optimum 5

Teat Length; Optimum 5 which equals 5cm in length

FEET & LEGS

Foot Angle; Optimum 6 & 7.

Heal Depth; Optimum 8,

Bone Quality; Optimum 5,6&7. There is no scientific proof that there is an economic advantage in Bone Quality, regardless of it scoring 5 or 9 in Red Scandinavian cattle. There are ongoing studies into Bone Quality within Holsteins in Canada; as yet there is no conclusive data to support the argument of selecting a very high score for Bone Quality.

Rear Legs-Side View; Optimum 5

Rear Legs-Rear View; Optimum 8, as pointed out by Thure, a score of 9 takes you beyond parallel, so 8 is the desirable Optimum score.

DAIRY STRENGTH;

NOTE 2#

Stature; Optimum 5, 6 & 7. 2 y/o Heifers, 138 cm and cows 142 cm, measured above the hips equals a score of 5.

Given that ARDB breeders, breed a range of cows with some herds preferring to breed taller cows and some average sized cows and also given the variation in production systems mean that some breeders grow their cattle out bigger. An Optimum score range for statue of 5, 6 & 7 has been established. This way only the cows score below 5 or above a score of 7 for statue will be penalised in the Overall Type score.

Muzzle Width; Optimum 9

Chest Width; Optimum 6, 7 & 8. When looking at statistics, there is no clear scientific evidence to suggest that from a functional or profit perspective, selecting for a very wide chest is beneficial, hence once again a range has been selected as Optimum.

Body Depth; Optimum 6 & 7. Given the negative correlation between body depth and fertility and longevity, a multiple Optimum range of 6 & 7 has been implemented by the ARDB

Angularity; Optimum 7. Once again the genetic trait of Angularity has a negative correlation with both fertility and longevity. Criticism of Scandinavian cattle and their Optimum of 5.5 have no economic or scientific merit. However it is well documented that the selection for very sharp, angular type cows is a negative for both health and survival.

Also remembering that the Scandinavian Red and Aussie Red cow are a smaller rounder type of cow, a compromise between extreme angularity that aids milk production and a lesser degree of angularity that assists with health, fertility, longevity and overall profit has been arrived at. Hence the Optimum of 7

Added Traits to Dairy Strength Score.

Bone Quality; 0 (zero) extra Weight

Udder Texture; 10% Weight It was felt that having udders with good texture and that milked out and not left looking fleshy are far more beneficial than Bone Quality, hence the 5% Weight that was originally attributed to Bone Quality was removed and placed on Udder Texture.

Loin Strength; 10% Weight.

I would like to thank all those responsible in assisting with the development and implementation of these New Conformation Optimums and Weights.

ARDB Classification Committee Convenor
Steve Snowdon