



Wirruna Poll Hereford Stud (est. 1949)

WIRRUNA NEWS

Newsletter
Summer 2007/08

Inside this issue:

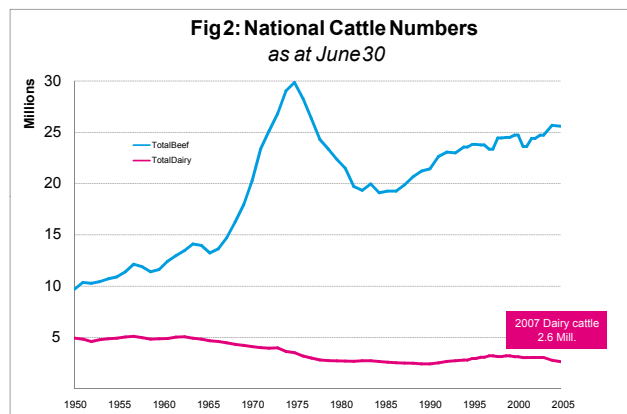
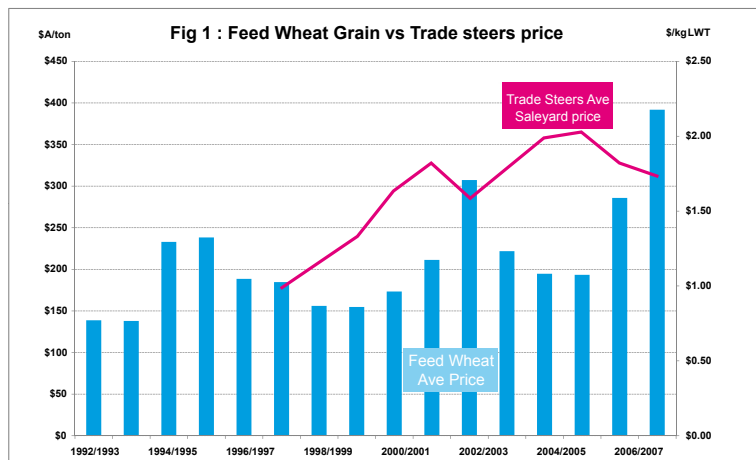
EBV Talk - Calving ease	2
Genetic Improvement	4
Retaining Heifers	5
2008 Bull Sales	6

EDITORIAL – FUNDAMENTAL CHALLENGES

2007 represented a difficult trading year for many beef producers. Ongoing drought, the rise of the Australian dollar (\$A) and high grain prices all contributing to an uncertain industry outlook.

Drought and feed prices have increased production costs and the \$A has increased beef prices to most of our customers around the world. As shown in Figure 1, these factors have contributed to a downward pressure on livestock prices to the cattle producer. One gets the feeling that some of these issues may be here for a prolonged stay with emerging ethanol production and low world grain supplies continuing to underpin the grain markets and a weak US economy and strong demand for resources, particularly in Asia, providing a floor for the \$A.

Hopefully we are seeing the end of the drought as recent widespread storms brought much needed rain across the country. La Nina conditions are forecast to bring further above average falls across eastern NSW and Queensland according to the latest National Seasonal Rainfall Outlook for the first three months of 2008. Upon asking the question if the drought effected beef production, figure 2 shows ABS data estimating that the Australian cattle herd fell 1% in the year to 30 June 2007 to 28.2 million head. This decline was largely born by the dairy sector. While sheep numbers plunged 5.2%, to 86.3 million head. The Australian sheep flock has been in an extended period of liquidation since reaching 170 million head in 1990.



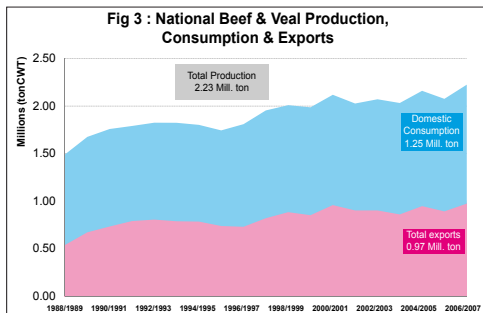
Dates for Diary:

- **Beef Week Field Day**
Thursday, 31st January, 2008 (no. 497)
- **Wirruna Autumn Sale**
Thursday, 21st February, 2008
- **Wirruna Spring Sale**
Wednesday, 27th August, 2008

"The real emerging issue for 2008 is what industry adjustments may take place given higher grain prices and stronger currency conditions."

EDITORIAL – FUNDAMENTAL CHALLENGES CONT.

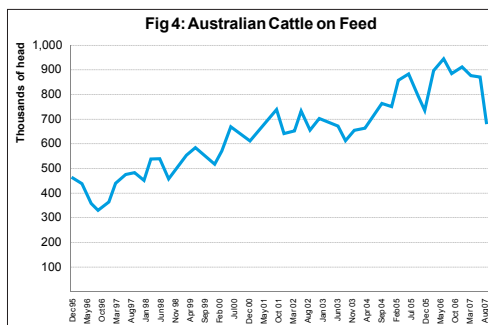
On the market front, the fundamentals indicate challenging times ahead for the beef industry. The fact that 94 percent of all Australian beef goes to just four markets, including domestic, makes us vulnerable to changes in supply and demand factors.



The total value of beef exports rose to reach a record \$4.9 billion, with almost half of this coming from sales to Japan. Domestic beef consumption increased, with national expenditure jumping to a record \$6.6 billion with Australians eating around 36.3 kg per head annually.

Continued access to existing export markets is crucial to the ongoing success of Australia's beef industry. With our global reputation as a supplier of high quality red meat we should seek opportunities to gain greater market diversification and identify emerging markets such as Russia.

The real emerging issue for 2008 is what industry adjustments may take place given higher grain prices and stronger currency conditions. Clearly there are longer term ramifications to the feedlot sector, their markets, and in turn, to us as producers. In 2006-07, 2.7 million grain-fed cattle were marketed, 33% of the total adult cattle slaughter. Now, cattle numbers on feed have fallen drastically (see Fig 4).



"Some retailers are sourcing 75% of their beef from feedlots, this is compared to 25% ten years ago."

(RABOBANK Global Focus - Beef)

If this downturn signifies a halt to the growth achieved by the feedlot sector over the last decade, we must identify new opportunities 'to take up the slack' or it will impact on all participants of the industry. I pose the following questions:

- Are shorter feeder regimes going to replace some existing long-fed markets?
- Will there be a risk of losing share in high quality beef markets that demand consistent quality and quantity all year round due to reduced supply of grain-fed beef?
- Is the feedlot sector putting enough emphasis on genetics? With more expensive rations, the feed-lotter will want to be confident that the animals they feed have the genetic ability to meet their target specifications. The feedlot buyers consideration of breed or phenotypic characteristics alone may now be inadequate, they may also need to know the average Breedplan growth and carcase EBV's of the sires used and \$Index rankings.
- Will grass-fed markets open up and lead to greater classification of grass-fed products?
- Will we see a greater impetus for the adoption of MSA grading to guarantee quality?
- Will the feedlot sector adapt by finding cheaper feed alternatives?
- With consumer trends tending towards foods that are more natural and less imposing on the environment, could grass-fed beef experience a resurgence?

If we are to see shorter feed regimes and more development of grass-fed options, the Hereford is well placed to take advantage having built a reputation for good growth and feed efficiency in these areas. I can see the carcase traits gaining in importance and the breeders have to use the technologies available and our genetic diversity to build on these traits into the future.

Wishing you all a safe and prosperous 2008.

Ian Locke

EBV TALK – CALVING EASE

(This article has been compiled with the help of articles produced by Breedplan and Southern Beef Technology Services SBTS.)

Calving ease is an important economic trait because of its impact on calf and heifer mortality, labour and veterinary expenses at calving time, and subsequent re-breeding performance of heifers.

EBV's for calving ease are calculated from calving ease scores, birth weight data and gestation length information provided by breeders. Due to the many non-genetic influences on calving ease the trait has a low heritability.

Calving Ease (DIR) EBV's are estimates of genetic differences among animals in their ability of their calves from 2 year old heifers to be born unassisted. The EBV's are reported as differences in the percentage of assisted calvings. Similarly, Calving Ease (DTRS) EBV's are estimates of genetic differences among animals in their ability of their 2 year old daughters to calve without assistance.

I believe calving ease is one of the biggest issues in the Hereford breed. We must acknowledge that many good commercial Hereford cattlemen in southern Australia have swapped to alternative breeds out of frustration with dystocia in heifers. Although I do not see this as the ideal strategy as Herefords have many excellent calving genetics, I remain concerned that the average Hereford seedstock breeder (Poll & Horned) is not sufficiently weighing calves at birth and submitting other calving ease related data to better select for the trait. Furthermore, the graphs Figure 5, 6 and 7 shows the latest breed genetic trends where calving ease figures have declined as birth weight has again climbed another notch higher. Wirruna, on the other hand, have been able to hold birth weight and improve Calving ease genetics.

*Higher, more +ive,
Calving ease EBV's
are more favourable*

Figure 5.

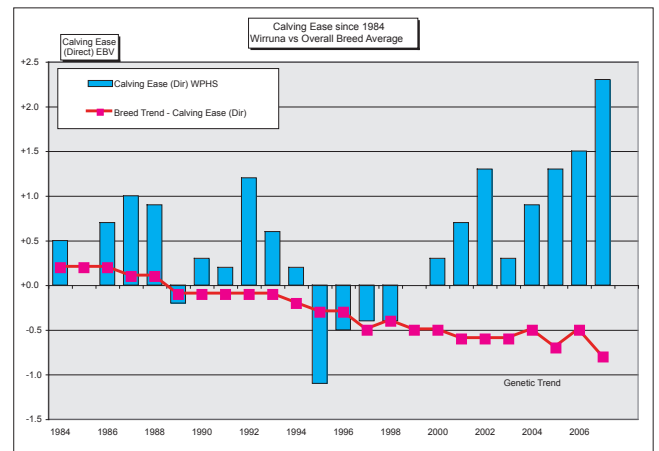


Figure 6.

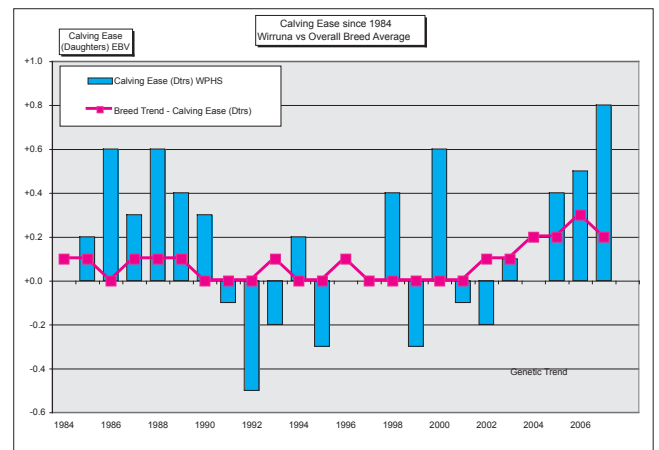
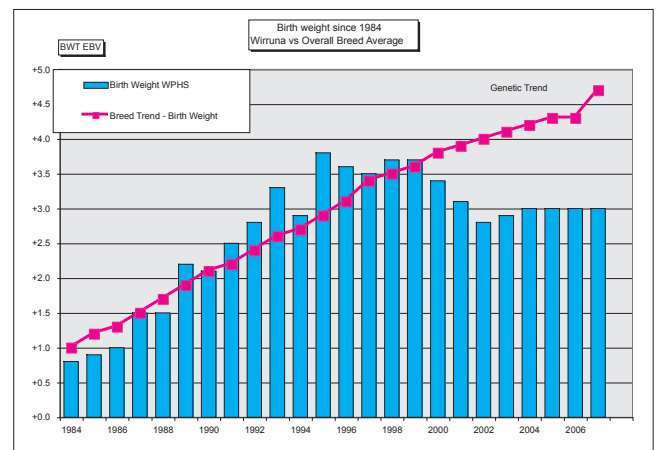


Figure 7.



“The best long term way to tackle a dystocia issue is through genetics.”

EBV TALK – CALVING EASE CONT.

The fact that many commercial cattlemen in the south have switched from autumn to a spring calving system has further highlighted the need for calving ease genetics. The nutrition effect on the spring calving heifer, in winter rainfall dominant southern Australia, increases birth weights by 3 kgs when compared to autumn calving systems. (refer to WPHS Summer 2000/01 Newsletter). This has been enough to take some herds over the line and experience unacceptable rates of dystocia (calving problems). Most dystocia is the result of a mismatch between the size and shape of the calf and the size and shape of the heifer's pelvis. Scientists have generally pointed to birth weight as the biggest contributing factor. Many beef producers have also seen calf shape as an important factor. Long bodied bulls with smooth shoulders can produce long bodied, smooth shouldered calves that are capable of being able to spread a higher birth weight over a longer length. The calving ease EBV's therefore, are more valuable than birth weight EBV's to select against dystocia.

Calving ease is affected by many environmental factors and several genetic ones. Environmental factors such as the nutrition of the heifer at various stages of her growth path and during pregnancy are major contributors to calving problems. Most cattlemen have adapted techniques to manage their heifers to manipulate the environmental issues. As an example, we run the heifers in hills on poorer quality feed in the last trimester of pregnancy. This keeps the heifers fit and serves to prevent the unborn calf from gaining too much weight while in the uterus. The best long term way to tackle a dystocia issue is through genetics.

Until recently, only proven bulls or cows with several progeny recorded had EBV's for calving ease. The Hereford Breedplan technical committee decided to lower the minimum accuracy criteria from 50% to 35% so that more animals got calving ease figures reported and this may assist breeders in selection. Wirruna have pushed for this change on the grounds that some information is far better than none. Hopefully it will also trigger more seedstock

breeders to consider and properly record the trait.

As with all traits there are trade-offs to single trait selection. Selection for low birth weight will also, on average, lead to low growth and this increases the chances that female progeny will exhibit poorer calving ability. Having said this, however, in large populations of genetics there are always outliers that 'buck the trend'. There are bulls that offer good growth, low birth weight and calving ease.

The sires in Fig 8 have all been used at Wirruna and illustrate some typical genetic correlations. Sire A was originally used to add growth. The high birth weight reflects its high correlation to growth. Also note the poor calving ease (DIR) EBV. This bull had a poor record of dystocia. However, the strongly positive calving ease (DTRS) EBV reflects that the extra growth in his daughters have lead them to have very few calving assists.

In contrast, Bull B was selected for easy calving. He had very low birth weight (and related low growth) genetics. The longer term issue has been that the lower growth genetics have contributed to poor calving daughters. Note the negative Calving ease (DTRS) EBV.

These examples show the typical trends. The fact that there is such a variation in genetics gives seedstock breeders the opportunity to find outlier sires that do not follow the trend. Sire C is a recently used sire from NZ that offers exceptional calving ease, low birthweight and high growth. Sire C is at the frontier of some exciting genetics that can take our breed to a better place.

As the amount of cattle performance recorded on Breedplan has grown, there have been more and more sires identified that offer calving ease and growth. I believe that we must build the low birth weight trait and calving ease into our herds and seek sires that 'bend the growth curve' (achieve good growth from a low birth weight base).

Figure 8.

Summer 2008 Group Breedplan EBV's																	
Sire Name	CALVING EASE				GROWTH & MATERNAL					FERTILITY			CARCASS DATA EBV'S				
	Calv Eas Dir	Calv Eas Mat	GL Direct	Birth Weight	200-Day Growth	400-Day Weight	600-Day Weight	Mature Weight	Genetic Milk	Scrotal Size EBV	Days to Calving	CWT (kg)	EMA (kg/cm)	Rib Fat (mm)	P9 Fat (mm)	RBY (%)	IMP (%)
A DAVIS 80U FACSIMILE 14X	-1.1	+5.1	-1.3	+5.9	+28	+45	+66	+73	+8	+0.3	-0.2	+34.0	+2.6	-1.6	-2.2	+2.5	-1.6
B WIRRUNA UMPIRE US4	+7.8	-0.8	-2.7	-1.5	+13	+23	+27	+15	+18	+1.7	-2.2	+19.0	+1.1	+1.8	+2.2	-1.6	+1.5
C KOANUI ROCKET 0219	+8.0	+9.2	-1.8	-0.1	+29	+56	+73	+68	+27	+2.9	-5.1	+61.0	+4.2	+0.4	+0.3	+1.6	+0.2
<i>Top 20% of breed '06 drop</i>	<i>+1.9</i>	<i>+1.3</i>	<i>-1.1</i>	<i>+3.0</i>	<i>+30</i>	<i>+46</i>	<i>+66</i>	<i>+67</i>	<i>+13</i>	<i>+1.5</i>	<i>-2.6</i>	<i>+40</i>	<i>+2.7</i>	<i>+0.6</i>	<i>+0.7</i>	<i>+1.1</i>	<i>+0.2</i>
<i>Breed Ave. '06 drop</i>	<i>-0.5</i>	<i>+0.3</i>	<i>-0.3</i>	<i>+4.3</i>	<i>+24</i>	<i>+39</i>	<i>+55</i>	<i>+55</i>	<i>+10</i>	<i>+1.1</i>	<i>-1.6</i>	<i>+33</i>	<i>+2.1</i>	<i>+0.2</i>	<i>+0.1</i>	<i>+0.7</i>	<i>+0.0</i>

GENETIC IMPROVEMENT

(This article has been compiled with the help of articles produced by AGBU, Breedplan and Southern Beef Technology Services SBTS.)

Genetic improvement is selecting parents that are superior to the current crop. A challenge for the beef producer when selecting between bulls is separating the environmental effects of what the bull looks like (phenotypic differences) to what traits they will pass on (genetic differences) and are set at conception.

$$P \text{ (Phenotype)} = G \text{ (Genotype)} + E \text{ (Environment)}$$

“In reality, all you are buying is what is hanging between a bull’s hind legs, as that is all he will pass onto the progeny. As hard as they may try, the stud grooms efforts to make the bull look bigger, fatter, taller, more muscled or shinier, are purely cosmetic and won’t be passed thru to the progeny.”

Luckily, the difficult task of bull buying is made easier and more precise by using BREEDPLAN EBV’s. Instead of wondering if sale bulls just look better due to feed, meaningful figures can be used to determine if bulls are actually genetically superior. \$Indexes are EBV figures

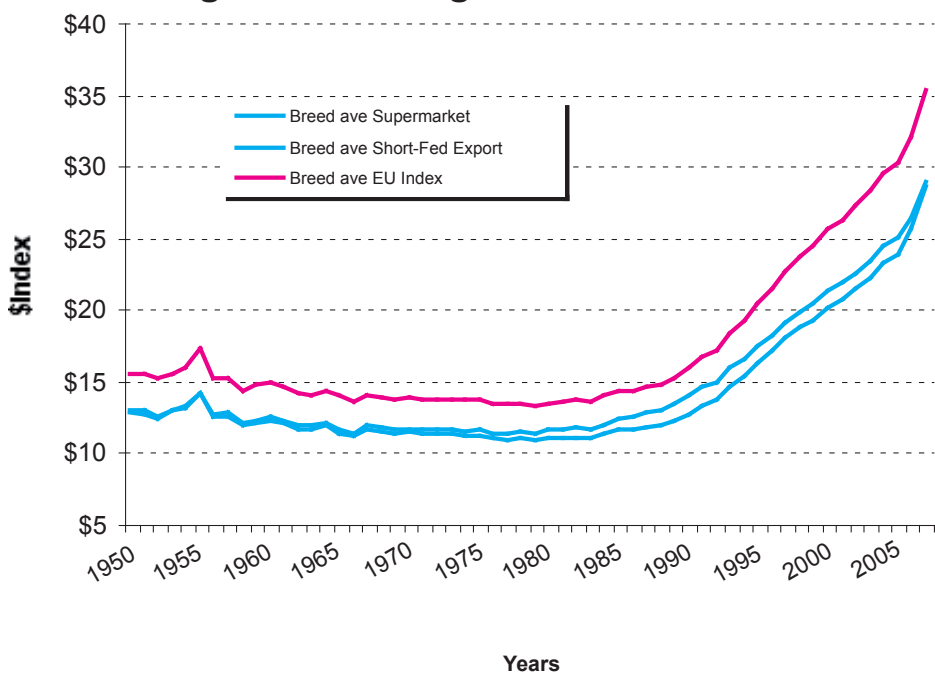
that take into account the combined influence of a number of individual trait EBV’s. The \$Index EBV considers multiple EBV’s at the same time. This provides an EBV value for the animal in dollar terms based on a specific herd production system and target market.

Using the \$Index as a economic measure for genetic improvement since 1950, the following graph (fig 9) shows the Hereford breed was stagnant until the introduction of BRNs in the dark. Years of show-ring judges and expert stud masters may have shifted individual visual traits to better suit the fad or fashion of the day, however, improvement to the bottom line of the commercial beef producer was arguably lacking.

This graph clearly illustrates that until we had genetic parameters to measure against and the tools to change genetic selection, cattle breeders were, in the main, making selection decisions in the dark. Years of show-ring judges and expert stud masters may have shifted individual visual traits to better suit the fad or fashion of the day, however, improvement to the bottom line of the commercial beef producer was arguably lacking.

There is truth in the old saying "30% breeding and 70% feeding"

Fig 9: Hereford genetic trends - \$Index



GENETIC IMPROVEMENT CONT.

There are three key factors that influence the rate of genetic improvement. They are:

- The heritability of the trait,
- The generation interval, and
- The selection differential.

Heritability: The proportion of difference between animals which can be passed on to their progeny. Traits with higher heritability such as growth and carcass traits are more easily selected for. Whilst female fertility and calving ease have low heritabilities.

Generation Interval: The time interval between generations, defined as the average age of the parents when their progeny are born. In beef cattle this generally averages around 4.5 – 6 years.

Selection Differential: The difference between the average genetic merit of the parents selected and the average of the population from which they come. The Percentile bands available from BREEDPLAN and supplied in the Wirruna catalogue provide an excellent tool for assessing the selection differential of Breedplan traits & \$Index values.

This is where your choice of seedstock producer is critical. When you are selecting your bulls, you should firstly select a seedstock breeder whom you have confidence in and are satisfied that their breeding program will ensure long term profitability of your breeding program. Along with being satisfied the individual animals offer structural soundness, the targeted maturity type, testicle size and serving ability; In the long run, the seedstock breeder will be essentially judged on your ability to achieve genetic gain.

In the seedstock sector we employ many tools to improve our rate of gain. AI with high accuracy sires, ET and multiple ovulations, proper and full performance recording in large management groups to ensure accurate Breedplan data and TGRM. Obviously the better our rate of genetic gain of the seedstock breeder, the more you are dragged along by our coat tails, commonly with a lag of about one cattle generation.

Good genetics is the foundation of a profitable livestock business. Investment in genetics is a medium to long-term strategy for improvement in herd profitability. While alternative

Using the Short-fed \$Index, Wirruna averaged \$2.37/ year per cow joined over the period 1999 to 2007. This is nearly twice the average genetic gain of \$1.25/year.

Beef Week Field Day Herd Number 497

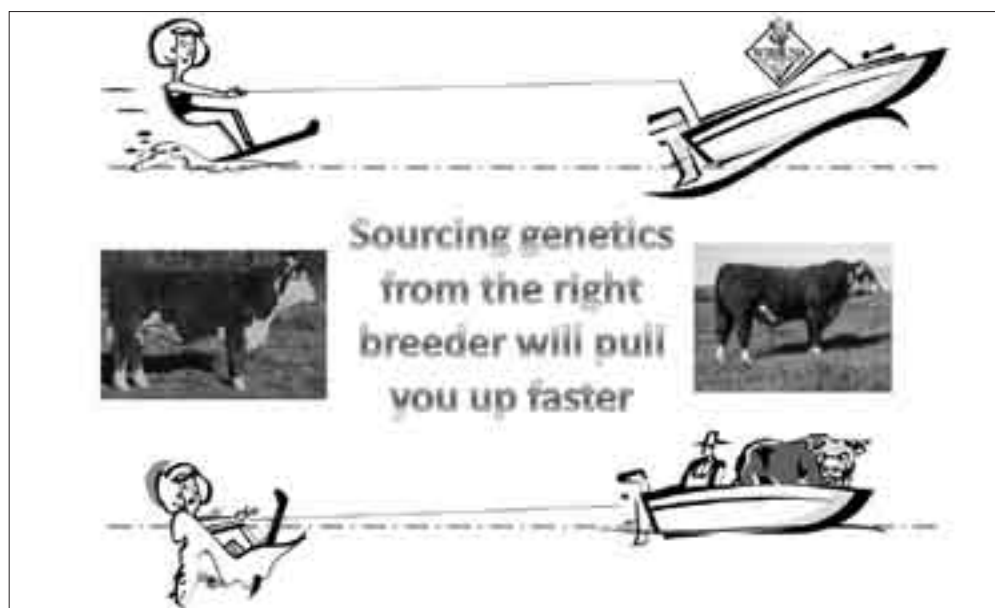
Date: Thursday, January 31, 2008
(Day 4)

Time: 9 am to 6 pm

All welcome to take this opportunity to visit our herd and talk to us about your breeding program and your requirements.

Sale bulls, breeding females and a sample of our breeding herd will be available for inspection.

Bull sale catalogues will be available on the day.



In considering these three drivers of the rate of genetic improvement we are considerably restricted as breeders because we cannot change the heritability of a trait and we can do little to reduce the generation interval of beef cattle, especially in commercial herds. This leaves us with selection differential as our primary tool to drive genetic improvement.

investment strategies can generate faster returns, genetic improvement has a permanent and cumulative effect on the commercial beef profitability and if you are onto a good thing - "stick to it".

Key Points

- ✓ Heifers represent the newest and best genetics
- ✓ They should be utilized to capitalize on genetic gain
- ✓ Join a large proportion to decrease generation interval
- ✓ Join a large proportion to increase selection pressure on fertility traits

RETAINING HEIFERS

Around 10 years ago, I was shocked to hear a client being reliably informed by his stud breeder that he should not retain the female progeny out of his 2 year old heifers as they will be inferior calves and they will stay that way if retained in the herd as breeder replacements. I have been asked the question many times since. I believe this advise to be totally incorrect and not in the best interests of the commercial breeder client.

It is true to say that the progeny out of heifers initially can struggle as these new dams are trying to intake enough energy to both grow out to maturity and produce sufficient milk for its calf. In my experience, as long as the heifers' calf does not experience a severe setback, it will catch up and be indistinguishable from its counterparts by the age of 18months.

More importantly, however, is the genetics it carries. Having read the previous article on genetic improvement you will understand that how a calf looks 'phenotypically' is influenced by the its genetics and the environment it has experienced, viz. out of a heifer. Genetically, however, it should be superior provided you are making genetic gains each year by buying the right bull.

Please consider the graph of Genetic trends – short-fed \$Index (figure 10) It shows WIRRUNA achieving genetic gains of \$2.37/year per cow joined, this means that each drop of heifers

is, on average, \$2.37/ hd better for short-fed \$Index than the previous year's drop of heifers. To illustrate this, the WIRRUNA 2006 born 'B' heifers average \$36.04 as compared to the previous year's 'A' heifers that averaged \$33.54, a difference in Short-fed \$Index of \$2.50. Clearly, we wish to access and build on these newer and more valuable genetics. I believe the commercial beef producer must capitalize on genetic gains made each year.

In the WIRRUNA herd, we only cull 'the halt, the lame and the blind' heifers and present as many as practical to joining, usually around 95% of all female weaners. We then let the pregnancy tester do the first culling. Followed by the next hurdles where the heifer has to present a live unassisted calf through to weaning and be back in calf again or be culled. The large numbers at the start of this process gives us much more selection pressure in the areas that most effect profit. It also serves to decrease the generation interval which increases the rate of response to selection within our herd.

Clearly, if your younger genetics are not an improvement on older genetics, such had occurred with the average bull selection from 1950 to 1985 in figure 9, then retaining younger heifers was of little advantage. But clearly, if his is the case, sire selection policies will have to be reviewed!

2008 Autumn Bull Sale - 21 February 2008

There will be 50 bulls offered at our 'buyer friendly' Helmsman sale on **Thursday 21th February 2008.**

This year's catalogue includes used WIRRUNA sires, specialist heifer bulls, carcase bulls, growth bulls and balanced trait bulls. If you don't normally receive a catalogue and would like one please either ring Ian or fill out the cut-out slip provided to fax or mail to us.

Should you be unable to attend our sale, we do have arrangements such as telephone bidding and placement of pre-sale orders. We are very interested to discuss these arrangements and any other requirements that you may have.

Ian & Diana Locke

PS. 2008 Spring Bull Sale - 27 August 2008.

Catalogue on
the Web
[www.
pollhereford.
com](http://www.pollhereford.com)

Please send me a bull sale catalogue:
WIRRUNA Poll Herefords
FAX: (02) 6036 3060 Email: locke.ian@bigpond.com

WIRRUNA Poll Hereford Stud
"Spring Valley" Holbrook NSW 2644

Name: _____ Address: _____

Phone No. () _____ Fax No. () _____ Email _____



Contact Details:

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AUTUMN BULL & FEMALE SALE

21ST FEB 2008

AUTUMN SALE

Please mark into your diary the two sale dates for Wirruna Poll Herefords in 2008. 50 bulls have been selected out for each sale. Also a selection of registered and commercial cows will be offered representing an ideal opportunity to upgrade into some quality breeding females suiting clients seeking to rebuild their herd as the drought recedes.

We are extremely pleased with the 'B' drop of calves (born 2006). Using the Short-fed \$Index (Herefords and Poll Herefords) the Wirruna 'B' calves average in top 10% of the breed. Following being weaned in early December (at 3 to 4 months of age) in a horrific drought, a well managed yard weaning regime that involved a high protein ration assured a good start for the calves. As a rule Wirruna does not feed grain, however, the failed spring required full supplementation at a crucial time of the calves' growing lives, during rumen development. The break in late May 2007 allowed the weaners to be turned out on grass. A kind winter helped the bulls reach carcase scanning in October with more fat than we have scanned for many years. As usual, all bulls were run in the same management group through to scanning to best identify the favourable genetics and achieve the best quality Breedplan data.

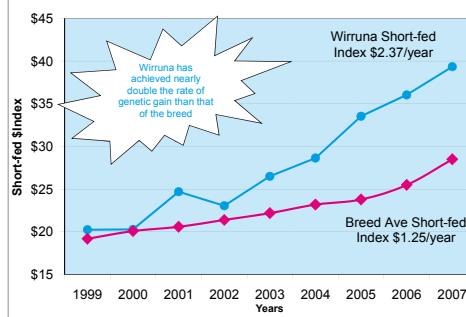
The following graph clearly illustrates that the Wirruna calves are genetically superior to breed average recorded calves born in 2006. The Poll Herefords database reveals that 25 of the top 100 PH 2006 drop calves are Wirruna bred.

The Autumn sale bulls will be yarded as follows:

Pen No.	Purpose	No.	Selected on	Average \$'s 2006-2007
1	Muscle Bulls	10	Physical muscle &/or high EMA EBV	\$3,599
2	Growth Bulls	9	Own growth & 400 day growth EBV	\$3,252
3	Wirruna Sires	3	Sires used at Wirruna	\$5,882
4 & 5	Specialist Heifer Bulls	19	Body shape & solid background of calving ease genetics for various breeding objectives	\$3,711
6	Good Herd Bulls	11		\$2,997

If you do not normally receive a bull sale catalogue please use the cut-out slip provided in this newsletter. Inspections of the sale bull are welcome anytime by appointment.

Fig 10: Genetic trends - Short-fed Index Wirruna vs Overall Breed Average



(Internet solutions sort on Short-fed \$Index as at 19th Dec 07).

Some of the sires represented include Koanui Rocket, Mount Difficult Fellis Y12, Heatherdale Opium U78, Quamby Plains Stockmaster Y118, Markowen Author 2, Wirruna Vickery, Elite J7C X54, Feltons Endurance 745 and Debarray Image. We see it as one of the best line up of bulls yet offered by Wirruna.

All Wirruna Sale bulls are

- independently assessed for structure by Jim Green
- vet assessed for fertility including serving ability by Dr Reon Holmes
- fully performance recorded on Breedplan
- bred under strict commercial conditions in large contemporary groups
- backed by Wirruna's guarantee & back-up services
- available at our client friendly, on property Helmsman sale.

SPRING BULL & FEMALE SALE

27TH AUG 2008