

Beef Class Structural Assessment System BY DR REON HOLMES B.V.Sc.

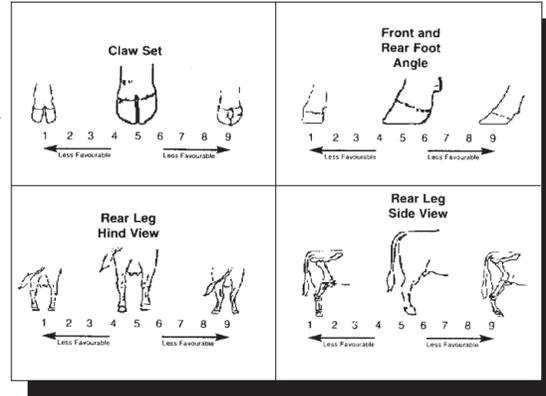
The beef industry suffers substantial losses through poorly structured animals. From bulls being unable to serve, to steers breaking down in feedlots or poorly uddered cows all cost cattle producers money.

The BIA, MLA and various breed societies decided to address the problem and through measuring and genetic analysis of over three thousand animals from genetically linked herds a system was put in place to assess structure.

The Beef Class Structural Assessment System, developed with Jim Green, is becoming widely recognised through-out the industry. All Wurruna catalogued bulls will now be presented with structural assessment information.

The system is designed to be simple and easy to use. They are linear assessments, scored from 1 to 9, with 1 and 9 being the extreme in each case.

- A score of 5 is ideal



- 4 and 6 show slight variation from ideal, but are acceptable in any breeding program.
- 3 and 7 exhibit greater variation. Acceptable in most commercial operations, but seedstock producers should be wary.
- 2 and 8 are low scoring animals and require careful consideration.
- 1 and 9 are culls (not catalogued).

Structure scores should be used as a guide only, not a guarantee.

Setting up a Profitable Herd RICHARD LOCKE

I hope by now our clients look at production of beef per hectare and set targets to produce beef at close to 50 cents/kg not at price per head or topping the local market. To achieve this aim both fertility and a highly productive pastures base are essential to become a low cost producer. Benchmarking proves this point and is available through us with Holmes and Sackett - another of our services to help in your profitability.

The highly fertile herd starts with yearling heifer management. Only cull halt, lame and blind and those falling to attain joining weight of approximately 300 kgs. Only retain heifers that conceive in a 6 week joining as a 14-15 month old and calve without assistance. They must conceive again in an eight week joining period and continue to raise a calf unassisted every year there-on.

As years go by, the herd will develop into an efficient, highly fertile converter of roughage into beef. Avoid leggy, late maturing, large cattle as fertility suffers in tough years. Remember, between 70% and 80% of feed grown for a self replacing cow herd goes to cow maintenance - not growing the calf, hence a large cow that fails to calve is an expensive item.

Finally, match feed demand to feed availability. For most of our clients that means August calving - this also helps avoid grass tetany. Hay fed each night to young calvers helps avoid "uterine inertia" and encourages daytime calving instead of at night.

Phalaris is NOT "vertical cardboard" as I have heard it described, but when well fertilised and well grazed is the basis of productivity.

"...it was found that feet and leg structure was moderately to highly heritable"

Catalogue on the Web
www.pollhereford.com.au

"Fertility traits have low heritability, therefore cattle managers must set up a production system that screens out less fertile cattle early in their breeding life"

2002 Bull Sale - 21 February 2002

There will be 45 bulls offered at our 'buyer friendly' Helmsman sale on Thursday 21st February 2002.

This years catalogue includes 3 Wurruna sires, 16 specialised heifer bulls, 10 carcass bulls, 10 growth bulls and 6 balanced trait bulls. If you require a catalogue 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 & Richard Locke



Contact Details:

Wurruna Poll Hereford Stud
"Spring Valley"
HOLBROOK
NSW 2644

Richard & Diane Locke
Phone: (02) 6036 2559

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Fax: (02) 6036 3060
Email: wurruna@albury.net.au

Offer to Spring Calving Herds

In 1997-98 we shifted the Wurruna herd to spring calving only. This change has simplified our management and allowed us to significantly increase stocking rates and stop seasonal supplementary feeding.

However, for clients with spring calving herds, this adjustment results in bulls coming available well before they are required.

As a service to past buyers of our Spring Bulls and to encourage you to continue to support our bull sales, we offer you payment and delivery arrangements that may assist your program.

Our offer is for any bull/s purchased at our Helmsman sale you may:

25% down-payment

Pay 25% of the purchase price up front.

75% at delivery

and
Pay a further 75% of the purchase price upon delivery before your next Spring joining.

WIRRUNA FAX: (02) 6036 3060
Wurruna Poll Hereford Stud
"Spring Valley"
HOLBROOK
NSW 2644

Please send me a bull sale catalogue:

Name: _____

Address: _____

Phone No. () _____

Fax No. () _____

Beef Week Field Day Herd Number 597

Date: Monday, February 4, 2002
(Day 5)

Time: 9 am to 6 pm

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

Sale bulls and most of our breeding herd will be available for inspection.

Bull sale catalogues will be available on the day.



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"The stud industry often adjusts the environment to suit their cattle. While the commercial industry must have the cattle suit their environment."

Dr. Reon Holmes

Dates for Diary:

- Beef Week Field Day
Monday 4th Feb 2002
- Bull Sale
Thursday 21st Feb 2002

WIRRUNA NEWS

Newsletter
Summer 2001/02



Thinking Beef

In a trip to the US in 1997 I visited Steve Radakovich at his ranch in IOWA. His understanding of the US beef industry and the pitfalls of their seedstock industry

was refreshing and helped me to objectively look at our own seedstock industry.

Steve stated that the US seedstock, like in Australia, are pampered, over managed and over fed. Unfortunately most of the selection has been for appetite and mature size. Extremes are mistakenly considered as optimum. The industry has been led by fads, not facts. Too often we think that our problems can be solved genetically, where in reality our efforts could be more rewarded with the better use of technology and management. One of his statements stuck in my mind " ...if we discovered a sweet and sour flavoured strain of beef cattle, we would spend generations and huge resources to propagate the genetics, while the chicken industry would just open a jar of sweet & sour sauce, heat and serve with chicken meat".

There is no doubt, the importance for the beef industry to increase consumer market share. However, commercial beef producers must balance customer requirements with an ongoing need to maintain whole farm productivity and reproductive efficiency as a low cost producer.

The challenge for modern beef producers is to understand and focus on what drives the profit in their beef enterprises. For many this requires a change in the way we think about our beef enterprises. The following example changed Steve's thinking on cattle breeding.

Assuming you have two pens of steers, Pen A & Pen B. You fed those pens an equal amount of ration for 70 days and eventually made more profit/steer from Pen A. Was Pen A more profitable? The answer is not necessarily! You could have more steers in Pen B, made less per steer but made more total money.

"This 'paradigm shift' in thinking can be like a light bulb coming on in your head", Steve said.

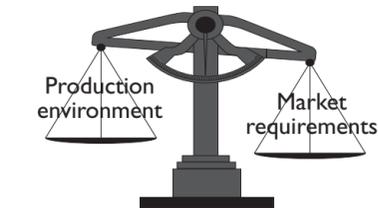


In my case, benchmarking helped as a tool that involves assessing performance on a per kg or per ha basis rather than \$'s per head. Once you experience this paradigm shift, you look at cattle breeding from a different perspective.

As a seedstock producer, Wurruna's challenge is to provide you with the tools to keep your beef business profitable. We see this as more than just genetic inputs, it requires the provision of information, strategies, bull selection tools and client services well beyond that offered by the bull breeders of the past.

Our Wurruna Benchmarking Service is an example. Using consultants Holmes, Sackett & Associates in Wagga, this service for Wurruna clients involves your business being benchmarked to many other herds and then meeting as a group to discuss the results. Benchmarking is a great tool to help you identify the strengths and weakness in your business and take steps for improving your business performance.

Ian Locke



EBV Talk

Group Breedplan Estimated Breeding Values (EBV's) has become a vital tool for beef producers to select traits of importance for their herds. However, we know that selection for one trait can have adverse trade-offs on others and with a large number of EBV's to be taken into account in any selection decision it is often difficult to decide what relative emphasis that you should apply to each trait.

Selection indexes take the hard work out of knowing how much emphasis you should give to each of the available EBV's when selecting breeding animals. An index gives you a single EBV that reflect the value of an animal, to your breeding objective, in dollar terms. They rank animals for a single selection goal - profit.

Indexes allow for balanced selection. They apportion the amount of selection pressure that needs to be applied to growth, maternal, carcass and fertility traits to give you the most profitable herd over the long term - high indexing animals will rarely have the highest EBV for any single trait.

This tool is called BreedObject. It is a computer program that combines economics, genetic theory and applies weightings for the 17 Breedplan EBV's currently available. These weightings account for antagonisms between traits, and for the long term effects of selecting for "cost traits" such as growth and leanness which may eventually lead to decreased cow fertility or increased cow maintenance.

Generic indexes are available that reflect \$Index values for animals relative to a number of Hereford specific markets in self replacing herds. These are:

- Domestic Super Market trade
- Hereford Prime
- Short-fed (100-150 days) feedlot trade
- Long-fed (220) days heavyweight feedlot trade.

These \$Index EBV's are available at both the websites of the Poll Hereford Society and BreedObject. The Warruna sale bull catalogue is also on the Poll Hereford Society website with these four BreedObject indices and all EBV's.

The table below shows the \$Index values for 3 Warruna bulls using the Hereford Prime Index. Variation of \$Index values between bulls indicate differences in expected net profitability per cow joined. Progeny of bull V16 will produce on average, an additional \$9 per cow joined above the bull closer to average, such as V10. $(\$37-\$19) \times 50\% = \$9$

50% of the difference is used as a sire contributes only half the genes.

Given this bull was to sire 200 progeny in its life you may value this bull at \$1,800 above the average bull.

This system by no means removes the need for a thorough visual inspection for type, maturity pattern and structural & breeding soundness. It can be used in conjunction with your own abilities as a stockman.

It is hard to know if the scientists and the economists have got the \$Index for herd profitability right. Especially as we are looking at a \$Index value on a \$/head basis not \$/Ha. Nevertheless, we have to buy bulls on a per head basis and valid attempts to better balance traits selected and make the system simpler can be of benefit.

Warruna suggest that the system be approached with common sense and used as a "screening" device to select animals with the \$Index range suitable for you.

In BreedObject on the web there is also the capacity to customise a selection index to rank animals for your own production and market situation.

Bull No	EBV's									HerePrime \$Index
	BW	200M	200D	400D	600D	SS	Fat	EMA		
V16	2.7	5	21	33	49	+2.9	+2.3	+1.9		+\$37
V10	2.1	5	13	35	47	+1.0	-0.4	+1.6		+\$18
V81	2.4	8	16	21	27	-1.0	+0.6	+1.2		+\$5
Breed Average	3.9	7	20	32	46	+0.9	+0.2	+1.7		+\$19

Key points:

- Selection index - a simple solution to a complex problem
- Draws together EBV's into a single \$Index EBV
- Like EBV's this should not be treated as the only tool in your bag

Websites:

- breedobject.com
- www.pollhereford.com.au
- Animal enquiry & Sire selector



Warruna were the first beef herd in Australia to achieve MN3 status in 1999.

TO BE OR NOT TO BE? (Horned or Polled)

Article partly reprinted with kind permission from Kay Payne's newsletter "The Elite Performer", Elite Poll Herefords, Scone.

Key points:

- The gene for polledness (P) is dominant to horns (p)
- Out of the four gene combinations (PP, Pp, pP and pp) only paired recessive genes (pp) result in horned animals.
- The gene for scurs is a separate gene and therefore has no effect on the presence or absence of horns

Finding a horned calf resulting from the joining of polled parents can sometimes be an unexpected surprise. "How is this so?"

Every animal has a pair of genes for each trait, each gene inherited from each parent. In turn, that individual will pass on half its genetic inheritance (one gene of each pair) to its offspring.

The inheritance of horns is controlled by one pair of these genes. The gene for Polledness is expressed as "P". Horns is expressed as the "p" gene. The Polled gene (P) is dominant to the horned gene (p). So when an animal inherits the dominant P it will always be Polled. The only time the recessive horn gene (p) can express itself is when the dominant P gene is not present.

A PP animal (sire or dam) is known as homozygous polled because it possesses two identical genes ("homo" means "the same"). It will only have polled offspring regardless of whether the other parent is polled or horned, because it only has the dominant P gene to pass on. PP bulls are often referred to as 100% dehorners.

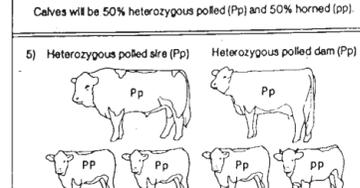
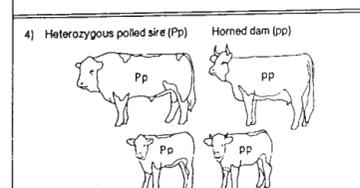
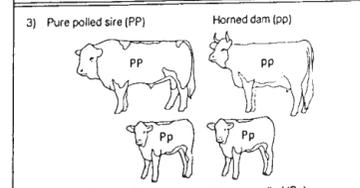
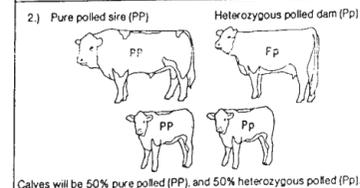
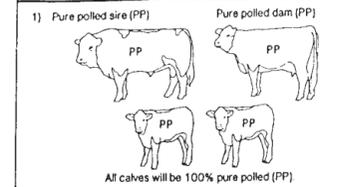
The Pp animal however is heterozygous ("hetero" means "not the same"). With different genes this animal will not always have polled calves passing on the p gene 50% of the time.

Scurs are incompletely developed horns that are generally loose. The inheritance of scurs is not as straight forward as horns vs polls. The gene is transmitted separately and how it is expressed depends on the sex of the animal.

In males, the gene for scurs (Sc) is dominant requiring only one single Sc gene for a bull to be scurred. In females, the Sc gene is recessive. So to be scurred, a cow must carry two Sc genes.

There is no "test" to determine an animal's genetic makeup for polledness or the scur factor other than observation and record keeping.

Here are some examples of breeding for the polled condition. Keep in mind that each parent passes one-half of its genetic makeup on to its offspring. (The genes causing scurred calves are not considered in these examples.)



Calves will be 25% pure polled (PP), 50% heterozygous polled (Pp) and 25% horned (pp). (Note that even though the horned calves resulted from mating two polled animals, they are genetically the same as if they were from horned parents.)

"The only genetic difference between horned & polled Herefords breeds is one pair of genes"

"Absence or presence of scurs have no effect on the profitability of commercial beef herds"

Bull Cost/Calf

How much do you pay for a bull? ... should be linked to the question, What is it costing you to get your cows in calf? Too many bulls unfit to mate and under-utilisation of bulls (joining rates >2%) are common reasons for high bull costs in commercial beef herds.

By using sound bulls (Bull type A vs C) of longer working lives (3 vs 5 yrs), higher joining rates (30 vs 50 cows) and better fertility (85% vs 90%) bull cost per calf can be more than halved (\$30 vs \$13). A bulls potential to contribute to income, by lowering cost per conception is

often far greater than his potential contribution by increasing growth.

If you have scope to lift joining rates (Bull type B Vs D), you can purchase highly fertile bulls of better quality (higher purchase price) and still reduce your Bull cost per calf. (\$23 vs \$18). There will also be the relative value in those progeny.

There is a lot of evidence showing that heavy grain feeding at an early age sharply reduces both longevity and fertility. Because Warruna bulls are pasture reared under heavy stocking rate conditions they do not carry heavy early weights thus remaining sound for breeding for much longer than average.

Bull Costs for Natural Mating				
Bull type	A	B	C	D
Purchase Price	\$3,000	\$3,000	\$3,000	\$5,000
Working Life (yrs)	3	5	5	5
Opportunity cost (Bull users \$300/yr)	\$900	\$1,500	\$1,500	\$1,500
Salvage Value	\$1,600	\$1,600	\$1,600	\$1,600
Net Bull Cost	\$2,300	\$2,900	\$2,900	\$4,900
No. Cows mated/yr	30	30	50	60
Calving %	85%	85%	90%	90%
No. of calves sired	77	128	225	270
Cost/calf	\$30	\$23	\$13	\$18

Warruna sale bulls have serving capacity ratings and mating potentials which are linked to our guarantee. Use bulls to their full service capacity rating. A lot of work has been undertaken by us and within the industry to prove the usefulness of those ratings and it will save you money as you will get more calves over the life of that bull.

Mike Blockey's research work has shown that the "normal" working life of the "average" bull is only 3 seasons.

How to Purchase Low Risk Bulls:

- Not overfed
- Breeding Soundness Examined
 - ▶ Independant examination for structure, scrotal & serving capacity
- Vaccinations programs
 - ▶ Vibrio & 5 in 1
- Source from good seed-stock producer
 - ▶ Guarantees, client service and ethics

Consider entering our benchmarking program for this year

BIA Fellowship Award RICHARD LOCKE

Congratulations to Richard Locke who was honoured (and left speechless) after been awarded with the Beef Improvement Association's Fellowship Award presented in August 2001.



The award was in appreciation and recognition of his pioneering involvement in the seedstock industry through his early adoption of Breedplan Technology, introduction of client service and his enthusiasm, commitment to and involvement with the Beef Improvement Association over a long period.

Warruna Benchmarking

Warruna began a Benchmarking service for clients in 2001. We see benchmarking as a vital management tool for every professionally run farming and grazing business.

Warruna sponsor the cost of the benchmarking, done for us by Holmes, Sackett and Associates and put on a benchmarking day where together with Dr Phil Holmes, we discuss and analyse the results.

Clients interested in this service for 2001/02 or require further information should contact Ian Locke. ☎ (02) 6036 2877