Bred to Solve Problems, Not Create Them

INCREASE YOUR PROFITS - NOT YOUR RISK
FOR ANY PRODUCTION MODEL

... a better bottom line!
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SHORTHORN PRODUCTION
The breed that built Australia

Shorthorn cattle are bred to solve problems, not create them. Everything we do is for you, because our success is dependant on your profitability. We strive to produce Shorthorn cattle that allow you to maximise your ability to create profit through genetic input.

The modern Shorthorn has come a long way, and has made tremendous leaps to become a truly market oriented, customer focused animal. Providing genetics and cattle that maximise your profit is our responsibility. In order to assist you to maximise your profitability, it is important that we make it easy to understand the benefits, and be able to access the benefits, that are available to you through utilising Shorthorn genetics.

SHORTHORN COMPARATIVE ADVANTAGE

The things that Shorthorns do really well
The Shorthorn breed offers balanced, multi trait excellence, designed to increase productivity by impacting all areas of economic importance, not just a few.

Maternal Excellence
Efficient production, it is the cornerstone of a profitable beef herd.

Shorthorn cattle have long been renowned for their maternal efficiency and their ability to perform across varied environments without sacrificing fertility and performance.

Shorthorn females excel at

- Calving Ease
- Fertility
- Kilograms weaned
- Carcass Quality
- Feed Efficiency
- Temperament
- Longevity

Australia is a nation of varying seasons and climatic extremes, which provides unique challenges to Australian beef producers. Shorthorn females are extremely adaptable, across a wide variety of environments, and maintain production and fertility under seasonal adversity.
Kilograms Weaned
Effective production must also be effective.
Shorthorn cattle exhibit excellent growth rates from pre weaning, to post weaning, to backgrounding and feedlot Average Daily Gain.

The MRC Project M112 results from 4594 calves on feed showed, that Shorthorn cattle were No.1 on average, as a breed, for Average Daily Gain, both through the Backgrounding phase and Feedlot phase.

In the USDA MARC Germplasm IV evaluation, progeny from the Shorthorn cross females in the group posted the highest 200-day calf weights of any British bred cattle and the second highest 400-day calf weights of any breed.

Yet Shorthorn and Shorthorn cross cattle display balanced maturity patterns, with Domestic market compliance and excellent fertility and calf rearing capabilities exhibited in first calving females.

Feed Efficiency
Feed Conversion ratios below 6:1 are largely considered to be better than average and more efficient.

Across 3 feedlots through central USA over 11 years, Shorthorn cattle posted Feed Conversion ratios of 5.22:1.

In a joint OSU/KSU study, 217 Shorthorn steers posted Feed Conversion ratios of 5.58:1

In the NCBA Carcass Merit Project, Shorthorn steers posted Feed Conversion ratios of 5.81:1.

These amazing figures explain in part the Shorthorn females ability to remain productive and fertile despite seasonal variations.

Carcass Quality
Because the customer is always right.
Marbling contributes to a greater eating experience for consumers. Marble Score 2 Beef or higher is a prerequisite for many Australian Premium markets.

Results from the M112 project confirmed the Shorthorn breeds carcass merit.

In the Southern Trial, from 4594 calves, Shorthorns posted the highest purebred average Carcass Weight, the second highest purebred average EMA and the highest average Marble score. Most significantly, Shorthorns also displayed the least variation in marble score of any breed.

In the Northern trial, 7,748 calves, Shorthorns again posted the highest average Marble score with compliance a staggering 13% higher than the next best group of steers.

Complementing your program with Shorthorn genetics will increase your productivity, efficiency and effectiveness.

And Shorthorn and Shorthorn cross cattle are in demand.
When joined to purebred Angus females the Shorthorn progeny will retain a black hide.
SHORTHORN PURE

Stand out from the Crowd

And have a herd to be proud of.

Shorthorn females influence profit like no other because they balance all traits of economic importance, not just a few.

° Calving Ease
° Fertility
° Kilograms weaned
° Carcass Quality
° Feed Efficiency
° Temperament
° Longevity

The Southern Beef Situational Analysis, 2014, prepared by Holmes and Sackett for MLA showed that,

“The most efficient and profitable beef producers have a combination of higher productivity and a lower cost of production.”

Maternal efficiency, Kilograms weaned and consistent Carcass quality is your key to profitable beef production.

Shorthorn females turn the key for you, providing efficiency through maternal excellence, lifting kilograms weaned and creating consistent, predictable performance in the feedlot and on the rail.

The USDA MARC is largely regarded as providing the largest, unbiased, breed based evaluation of beef cattle in the world. Data from the MARC Germplasm IV report proved the value of the Shorthorn cow.

CALVING EASE

More live calves on the ground means more money for you.

In the USDA MARC Germplasm Evaluation IV, British breed females bred to Shorthorn bulls finished No.1 and calved 99.8% UNASSISTED.

Shorthorn cross females in the same study calved UNASSISTED 98% of the time.

Shorthorn steers processed for Coles at 11 months

<table>
<thead>
<tr>
<th>Full Weight</th>
<th>ADG - Feedlot</th>
<th>Fat P8</th>
<th>Return $/HD</th>
</tr>
</thead>
<tbody>
<tr>
<td>497</td>
<td>1.95</td>
<td>6.3</td>
<td>1081.19</td>
</tr>
</tbody>
</table>
**MORE KILOGRAMS WEANED**  
More live calves that grow faster.

In the same MARC study, Shorthorn cross females posted the highest 200 Day Calf average weight of any British breed and the second highest 400 Day Calf average weight of all breeds.

**FERTILITY**  
Age at puberty and kilograms weaned per hectare are key indicators of efficient production and desirable maturity patterns.

Shorthorn heifers also proved to have the second highest percentage reaching puberty at 360 days and the Shorthorn cross females recorded the highest percentage of calf crop weaned.

**CAPITAL VALUE**  
How long does it take a female to recover her costs.

It ranges from herd to herd, however a female has to last long enough to return the cost of carrying her into production.

Improved structure, temperament, fertility and maternal capacity are traits the Shorthorn breed is renowned for.

Allowing you to keep her in your herd, long enough to make a profit from her, and market her as a breeder, not just a cull.

**TEMPERAMENT**  
Because quiet cattle are more profitable.

The OSU study by Cooke et al. showed that females with poor temperament had increased Cortisol levels, dramatically affecting their ability to settle in calf.

In a US study involving thousands of cattle, research showed that cattle with a Disposition score of 3 or higher (Scale 1-6) returned on average a $62/head loss in performance. Shorthorn cattle in the trial averaged 1.8.

Holmes and Sackett measured labour costs amongst beef herds at 40% of production costs.

Shorthorn cattle have an improved temperament, reducing your labour requirements, increasing weight gain and reproductive performance.
SHORTHORN PERFORMANCE

Aren’t you tired of the lamb breeders bragging!

The lamb industry is leaving us behind, with quoted rates of genetic gain, 5 times higher than the beef industry.

Understanding Maternal Heterosis holds your key to catching up.

We’ve all heard the figures, 23% increase in production, but it sounds too good to be true. And what about the downside and will anyone want the progeny. It all seems too hard. It’ll rain and the beef market will kick, right!!

The 4 key points to understanding Heterosis and unlocking profit.

1. Individual versus Maternal Heterosis.

So how do they get the 23% figure?

Individual heterosis refers to the increase in performance from the cross bred individual and equates to approximately 8%.

Maternal heterosis refers to the increase in performance from the cross bred female and equates to approximately 15%.

Only maternal heterosis allows you to unlock the maximum profit.

Why is it so?

2. Heterosis and Heritability.

The lower the heritability of a trait the larger the amount of heterosis you get. It just works that way.

Mature weight and Carcass Quality are highly heritable. Weight gain and Milk are moderately heritable. Fertility and Maternal Capacity are low heritability traits and so they receive the greatest impact from Heterosis.

3. Heterosis and Genetic gain.

By now you’re thinking I have seen crossbred calves give more than an 8% increase. The extra difference is genetic gain. With carcass traits and mature cow weights highly heritable, it is important that the breeds you choose each carry a high genetic capacity for premium carcass performance and efficient maternal production. However, be careful of the downside to genetically extreme growth rates.

4. Breed Complementarity

What about the inconsistency issue?

This is where the last 3 come together. To capture the full effect you need to capture maternal heterosis AND genetic gain by using breeds that are complementary to each other. Breeds that are superior maternally but balance out each other’s strengths combine enough similarity to reduce inconsistency but still capture maternal heterosis and genetic gain.

This is science, not marketing. Ask a lamb breeder, it really is that simple!
Shorthorn cattle are arguably the most complementary cattle in the world; they form the basis of over 40 breeds worldwide.

And they are in demand.

Shorthorn cattle are renowned for their carcass quality. In the MRC M112B project in Australia, 12,342 calves were fed; Shorthorns finished No.1 for marbling and had the least variation in marble score of any breed. They also posted the highest ADG of any breed for backgrounding and feedlot gain.

Shorthorn cross breeder at Devon Park, Victoria.

Your current purebred system is good, right? No doubt, it’s certainly easy, but with maternal efficiency having a low heritability, selection pressure alone takes a long time to impact it. Adding Shorthorn genetics, and breeding from the replacement females, will boost your production system like no other. You will wean more calves that will weigh heavier and are in demand. And you will do it more efficiently.

That’s the science.

So why doesn’t everyone do it now?

Holmes and Sackett listed in their Southern Beef Situation Analysis 2014, that “Crossbreeding systems have the potential to increase weaning weights by 23%. This is not well understood within the industry.”

The Shorthorn breed lives by the philosophy, “That Shorthorn cattle are bred to solve problems, not create them.”

Shorthorn breeders are backed by the science and understand the need to unlock your profit through increased productivity and efficient production.
As one breeder found, using AI, the purebred Angus cows achieved 69% conception, the Shorthorn cross first calvers achieved 71% and the Shorthorn cross heifers achieved 81%.

They now turn off 500kg plus weaners at 12 – 14 months, “With nothing to eat but what’s in the paddock.”

As to the consistency issue, “We’ve found the cross really improves the temperament, do-ability and the capacity to turn off steers quickly. Even the tail enders made it easily.”

They currently enjoy nearly 100% compliance.

That’s maternal heterosis and complementarity at work.

**HETEROESIS IMPROVES**

- Calving Ease
- Fertility
- Kilograms weaned
- ADG
- Cow Longevity
- Lifetime Cow Productivity

**SHORTHORN COMPLEMENTARITY IMPROVES**

- Maternal Efficiency
- ADG
- Market Suitability
- Consistency
- Marbling
- Temperament

With less dependence on HGP, the industry will require cattle that can meet specifications naturally, putting greater pressure onto breeders. And with MSA grading, cattle are being judged increasingly on performance, not breed, making it hard to hide behind coat colour rather than performance.

Using Shorthorn genetics to unlock maternal heterosis and complementarity provides you with the easiest and safest way to meet these challenges and increase margins.

*Improving your bottom line is what we are all about.*
Lets look at some other findings from the 2014 Southern Beef Situational Analysis,

“There are widely acknowledged benefits to be gained by efficient use of cross breeding to capture hybrid vigour. The advantages of various cross breeding programs are well documented. Often though, these programs are discarded due to the complexity involved in some systems. Simple systems... of crossbreeding are effective in increasing productivity in herds with no change to costs.”

Simply complementing Shorthorn genetics with your existing program, and retaining the females, will allow you to capture maternal heterosis, genetic gain and retain capital value.

“The top 20% group….produce more kilograms of beef per hectare at a lower cost of production but sell at a similar price to the average.”

**TOTAL REVENUE = PRICE * QUANTITY**

So price received is important, but not the only precondition for your profitability.

Shorthorn genetics carry extremely consistent, premium carcass characteristics, allowing you to maintain performance within the top end markets.

However, how much you sell, and how much it cost you to produce it, are key determinants to unlocking greater profitability.

**NET INCOME = TOTAL REVENUE – TOTAL COSTS**

“We can’t afford not to!”

We have a great opportunity within the beef industry to improve profitability; efficiently and simply.

Capturing Maternal Heterosis, by complementing your existing program with Shorthorn genetics, will impact your profitability positively, without increasing your risk, or complicating your production model.

Just ask a breeder who has already complemented their program with Shorthorns and ask them why they do it, they’ll tell you.

“We can’t afford not to!”
SHORTHORN PREDICTION

What's a bull worth?

A good eye for cattle is a great and valuable thing. Complementing your visual selection by utilising EBV’s is better. Shorthorn EBV’s give you the ability to ensure that the animals you have selected, also deliver the necessary performance, in the traits you require, to enhance your program and tailor production to suit your markets.

Shorthorn breeders understand the need to ensure that accessing the benefits of Shorthorn genetics is easy. To assist you, the Shorthorn breed has invested heavily into Shorthorn Group Breedplan and Shorthorn EBV’s.

To fully utilise Shorthorn EBV’s, it is important to understand that EBV’s cannot be compared across breeds, only within a breed. A Shorthorn sire with an IMF EBV of +0.9 sits in the top 20% of the Shorthorn breed for IMF. Whilst comparative to some other breeds, this figure may seem lower; the problem lies in the word comparative. There is no comparison in EBV’s between breeds.

To utilise Shorthorn EBV’s, like any other breed, you must first understand the Shorthorn breed average which is available on the Shorthorn Beef website.

Importantly, EBV’s are not an indication of which breed is best for you. The traits that are inherent to, and developed within each breed, determine that breeds’ relevance to your program. EBV’s allow you to then tailor the performance of the animals within that breed to best suit your requirements.

MARKET ACCESS

Shorthorn and Shorthorn cross cattle perform extremely well both from grass and grain fed systems. They excel under the MSA indexing system and suit a wide variety of markets, including;

- Domestic
- Feeder Steer
- EU
- Japanese
- Korean
- PCAS
- Great Southern
- Breeder markets
SHORTHORN PROFIT
Because we all need proof

MRC Project M112b
In 1996, the Meat Research Corporation released the findings of the M112B Project, a large scale, breed evaluation scheme, the largest undertaking of its kind, was designed to assess breed suitability for competition within the growing grain fed beef market.

The project was split into two sections, the first being a trial of 4,594 steers sourced and fed in Southern feedlots. The second trial involved 7,748 steers sourced from NT, QLD and Northern NSW.

Southern Trial Shorthorn Averages

<table>
<thead>
<tr>
<th>Category</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backgrounding ADG</td>
<td>1st</td>
</tr>
<tr>
<td>Feedlot ADG</td>
<td>1st</td>
</tr>
<tr>
<td>Purebred EMA</td>
<td>2nd</td>
</tr>
<tr>
<td>Purebred Carcass Weight</td>
<td>1st</td>
</tr>
<tr>
<td>Marbling</td>
<td>1st</td>
</tr>
<tr>
<td>P8 Fat Depth</td>
<td>2nd</td>
</tr>
</tbody>
</table>

Shorthorn cattle also had the least variation of any breed for Marble Score. In the Northern trial, Shorthorn cattle again had the highest average marble score with 84%, score 2 or above compliance, 13% higher than the next best breed.

FEED CONVERSION
Where a little goes a long way

Shorthorn cattle are proven as efficient converters of feed.

What does that mean to you?

Cattle that convert feed easily cost less to maintain as breeders and less feed requirements to finish.

That means more efficient production for you and happier customers.

Across 3 feedlots in the US with data captured over 11 years, Shorthorn cattle posted average Feed Conversion rates of 5.2:1.

In a joint OSU/KSU study, 217 Shorthorn steers posted average Feed Conversion rates of 5.58:1.

In the NCBA Carcass Merit Project Shorthorn cattle again posted average Feed Conversion rates of 5.81:1.

When added to the Shorthorn ability for high ADG and Marbling compliance, *Shorthorns grow quickly, feed cheaply and meet the market specifications.*
RNA PADDOCK TO PALATE TRIALS 2012
The RNA Paddock to Palate trial is largely considered the most industry relevant trial of its type in Australia.

Under an independent panel of judges, Shorthorns again displayed their dominance for carcass quality.

**Shorthorn and Shorthorn Cross Results**

<table>
<thead>
<tr>
<th>MSA Eating Quality</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shorthorn</strong></td>
<td>1st</td>
</tr>
<tr>
<td><strong>Shorthorn</strong></td>
<td>2nd</td>
</tr>
<tr>
<td><strong>Shorthorn</strong></td>
<td>3rd</td>
</tr>
<tr>
<td><strong>Shorthorn</strong></td>
<td>4th</td>
</tr>
<tr>
<td><strong>Shorthorn</strong></td>
<td>5th</td>
</tr>
</tbody>
</table>

**Taste Testing**

| Shorthorn Cross | 2nd |
| Shorthorn Cross | 4th |

**Overall Winners**

| Shorthorn Cross | 1st |
| Shorthorn       | 2nd |
| Shorthorn       | 3rd |

**Champion Carcass**

| Shorthorn | 1st |
| Shorthorn | 2nd |

2014 SYDNEY ROYAL BEEF CHALLENGE TASTE TESTS
From 15 teams of Shorthorn or Shorthorn cross cattle entered, the breed achieved 4 Silver medals and 8 bronze medals from the independent panel of Judges.

DURHAM RESEARCH AND DEVELOPMENT PROJECT
The Shorthorn community is a dynamic and innovative community to be part of.
The Durham Research and Development project, a large scale, progeny test program, and one of the originals of its type in Australia.

DRD has allowed the breed to test selected young sires and build accuracies of performance from a young age.
The proven sires then flowed into the breed, greatly increasing the rate of genetic progress.
The modern Shorthorn has a tremendous ability to balance out the economically important traits and provide breeders with an easy care, efficient, productive and effective cow base producing quality steers suited to a wide variety of markets.

Whether for purebred or crossbred purposes, utilizing Shorthorn genetics allow breeders to differentiate their programs and benefit from the performance that Shorthorns provide.

Shorthorn EBVs are adjusted to suit a 300 kilogram carcass weight, (others use a 400 kilogram carcass weight), which ensures that Shorthorn cattle suit a variety of markets and females remain fertile, functional and efficient.

The Shorthorn Society is continually working on maintaining and increasing markets for Shorthorn cattle and raising awareness of the breed to the benefit of all breeders. If we can help in any way, do not hesitate to contact us.

**GLOSSARY OF TERMS**

MRC – Meat Research Corporation
USDA – United States Department Agriculture
MARC – Meat Animal Research Centre
OSU – Oklahoma State University
KSU – Kansas State University
NCBA – National Cattleman’s Beef Association
EMA – Eye Muscle Area
ADG – Average Daily Gain
AI – Artificial Insemination
SHX – Shorthorn Cross
HGP – Hormone Growth Promotant
EU – European Union
PCAS – Pasture fed Cattle Accreditation Scheme
DRD – Durham Research and Development
NM Index – Shorthorn Northern Maternal Index
EM Index – Shorthorn Export Maternal Index
DM Index – Shorthorn Domestic Maternal Index
EBV - Estimated Breeding Values
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