SHORTHORN PERFORMANCE

Aren't you tired of the lamb breeders bragging!

The lamb industry is leaving us behind, with quoted rates of genetic gain, 2 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.

Trait	Heritability	Heterosis
Fertility, Mothering Ability, Calf Survival	Low	High
Birth Weight, growth, Milk	Moderate	Moderate
Carcass Traits	High	Low

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.

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,

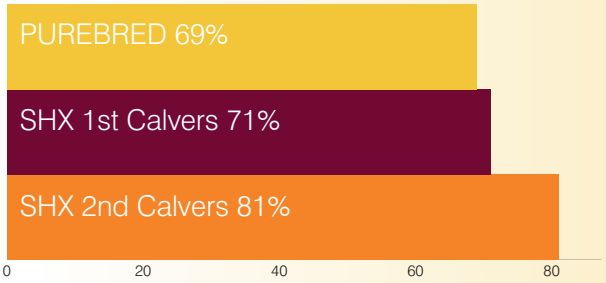
"That Shorthorn cattle are bred to solve problems, not create them."

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."



% achieved conception with Shorthorn Artificial Insemination

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.

HETEROSIS 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.

Let's 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

> "The variation in profits seen annually suggests that, for most beef producers, there is greater opportunity in improving efficiency within the enterprise than moving to another."

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 cross breeder at Devon Park, Victoria.