



# CLOVEN HILLS

450 Haydens Rd, Nareen VIC 3315

**Purpose bred for greater lamb production**

*"Flexible, profitable, sustainable"*

## Newsletter

August 2013

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### Introduction

Welcome to the inaugural Cloven Hills Newsletter. It has been a difficult time in the Western District over the past 12 months with a record dry spring and summer, combined with depressed livestock prices. However, it has been great to receive some good rain since May and pastures starting to grow with Spring around the corner. Hopefully the rains will continue and that lamb and ewe prices will remain on the improve.

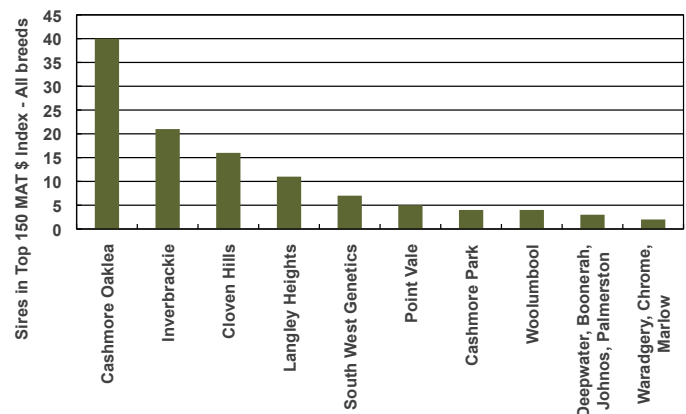
This newsletter highlights some of the things we have been working on and hopefully it will give you some food for thought when considering seed stock options for your business in the coming year and beyond. Kate has been busy developing our website so please visit [www.clovenhills.com.au](http://www.clovenhills.com.au) for more information and key dates and prices for forthcoming stock sales.

### Top 3 ranking for Cloven Hills across all Maternal Sires

This year we are excited to be able to offer rams in top 25% of the MAT\$ Index – All sires. Moreover, we have 16 sires in the Elite 150 of all maternal sires, making us the 3rd highest ranked maternal stud in Australia (Figure 1).

(<http://www.sheepgenetics.org.au/Breeding-services/LAMBPLAN-Home>). We are proud of this achievement, which validates the hard work we have put in over the past 5 years to breed ewes and rams which will do what we say they will. Over the past four years we have sold over 7000 ewes, ewe lambs and rams to clients for breeding purposes which demonstrates the market also has confidence in what we are doing.

Some information on our elite sires is provided in Table 1 and demonstrates the focus we have placed on fertility (NLW – number of lambs weaned), growth (WWT and PWWT – Weaning weight and post weaning weight) and resilience (PWEC – post weaning worm egg count).



**Figure 1. Cloven Hills has 16 rams in the Top 150 MAT\$ Index (All sires), making it the third highest ranked Maternal stud in Australia.**



**Table 1. Australian Sheep Breeding Values (ASBV's) for top ranking Cloven Hills Sires in the MAT\$ Index – All sires top 150 (Shaded boxes indicate trait leaders).**

Sire	BWT	WWT	PWT	AWT	PFAT	PEMD	PWEC	NLW	MWWT	MAT\$ Index	Rank/150
110907	0.43	<b>9.1</b>	<b>15.2</b>	<b>17.6</b>	0.1	1.2	5	5	0.4	<b>134</b>	18
110043	0.42	6.8	<b>11.7</b>	<b>14.1</b>	-0.7	0.8	<b>-47</b>	<b>12</b>	0	<b>133</b>	19
110048	0.61	7	<b>12.3</b>	<b>14.4</b>	-0.6	1.4	-41	8	-0.4	<b>132</b>	42
110093	0.48	6.2	<b>11.1</b>	13.1	-1.2	0.8	-33	10	0.3	<b>131</b>	43
100546	0.43	7.3	10.9	12.9	-0.7	0.2	<b>-49</b>	<b>12</b>	-0.3	131	44

To attain this position in a relatively short period of time we have developed a breeding program with five equally weighted elements, namely: i) Genetics, ii) Selection Pressure, iii) Population, iv) Structure and conformation and v) Commercial imperative.

### i) Top Genetics

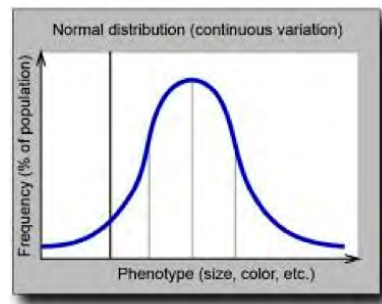
It started with a good foundation of flock ewes from Kate's father John Porter who was one of the earliest people to bring in Coopworth rams from New Zealand in 1978 and subsequently sold rams during the 1980's. Kate remembers the whole family driving to Sydney with a horse float to pick them up from the airport, only to find they didn't all fit. John then had to build a second deck in the suburban garage of a family friend before they could make the return journey to Cloven Hills. What must the neighbours have thought?!

In the 1990's John introduced East Friesian, Texels, Poll Dorsets and White Suffolk into the flock to add balance to his self-replacing flock, which made him one of the pioneers in the composite game, long before it was fashionable.

In 2007, Kate and Chris artificially inseminated 650 of these ewes with trait leaders (Top 1-5%) for fertility, growth and muscling from Cashmore Oaklea, Elsted and Jolma and began performance recording the progeny in LAMBPLAN to identify unique individuals.

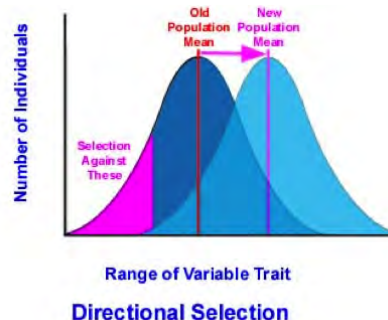
### ii) Selection pressure

Quantitative genetics is based on the assumption that the expression of any trait in a population is normally distributed following a bell shape curve (Figure 2). Selection pressure involves testing a particular trait to identify the top and bottom performers and culling accordingly. For example, we run our ram lambs under tough conditions as weaners and they get the lowest priority when it comes to allocating paddocks behind ewe weaners, ewes and finisher lambs. When the feed and grain gets tight they are the first to have their ration reduced and non-performers are culled.



**Figure 2. Example of normal distribution of a given trait (ASBV) or combination of traits (Index).**

We also use the Maternal \$ Index and individual traits (Australian Sheep Breeding Values) and physical attributes to cull ram lambs at a number of points along the way. This year over 70% of ram lambs were culled meaning only the top 30% will make it for sale or for use as commercial sires. When repeated over several generations the average of the bell curve for a given trait (ASBV) or combination of traits (Index), shifts to the right which is how genetic gain can be rapidly achieved (Figure 3). Consequently, this year, we will be offering rams which will all be in the top 25% of the Maternal \$ Index. One of the most rewarding aspects of ram breeding is using LAMBPLAN ASBV's and Indices as a tool, in combination with physical style and conformation, for tailoring sires to clients' personal breeding objectives.



**Figure 2. How positive selection pressure is used to achieve genetic gain for a given trait (EBV) or combination of traits (ASBV's).**

Artificially rearing ram lambs, not following a strict culling program, nor using tools like LAMBPLAN, narrows the spread of the bell curve distribution and has a two-fold effect. Firstly, it makes it difficult to objectively identify the top performers and slows the rate of genetic gain. i.e. It will take many generations to get to the same end point, a bit like driving a car at 10 km/hr vs 100 km/hr! Secondly, it means that the animal may not perform when put in a more challenging commercial environment, which is when it counts.

### iii) Population

Since 2007 we have performance recorded more than 6000 animals in LAMBPLAN. The more animals in a population, the better defined the spread and peak (frequency) of the bell curve and the more likely that an extreme individual will be identified to select from and apply even more selection pressure to accelerate the rate of genetic gain. Conversely, breeding from small populations essentially flat lines the bell curve making it difficult to identify star performers.

### iv) Structure and conformation

The Indices and ASBV's are important, but the rams need to be structurally sound and easy care, with good conformation and resilience when conditions are tough. In 2012 our sale rams and stud ewes were independently classed and typed by Stefan Spiker from Advance Livestock Services using the criteria listed in Table 2 .

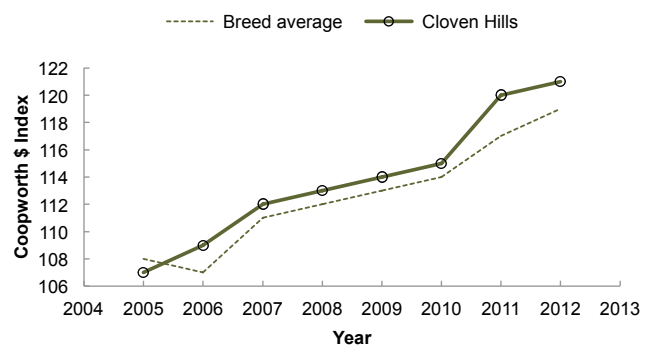
<b>Skin</b>	This ranks the openness of the skin. 1 is very tight 5 is open.
	For a self replacing flock 2.5 to 3.5 is ideal. For example, 2.5 is an ideal wether pelt.
	For ewes, 3-3.5 is ideal to ensure fleece weight, and have some openness for easycare management.
<b>Colour (Col)</b>	This ranks the amount of colour on legs and face. 1 is the most colour, 5 is no colour
<b>Feed &amp; Legs (Ft &amp; Leg)</b>	This ranks the structural soundness of the feet and legs, where 1 is lowest , 5 is the best.
	For example it includes the pastens, length, spread of toes & shape.
<b>Foot Colour (Ft Col)</b>	This describes the colour of the feet. 1 is white feet, 3 is black feet.
<b>Conformation (Conf)</b>	This ranks the rams shoulders, hind quarter & overall shape. 1 is the lowest, 5 is the best.
<b>Overall</b>	This weighs up all the physical classing information and assigns a score. 1 is the lowest, 5 is the best.

### iv) Commercial focus

The primary reason for our breeding program in 2007 was to introduce some new genetics for improving the productivity and profitability of our commercial flock, with the key drivers being

fertility and growth. Our rams sire 6000-8000 lambs per year at Cloven Hills and our breeding program has increased meat and wool production (kg/ha) for our enterprise.

The average Coopworth \$ Index for our flock has increased from the baseline of 107 to 121 from 2007-2012 and has consistently been above the breed average (Figure 4). This has also been a key driver for improving our business performance indicators and we look forward to sharing some of those with you soon. We have been part of a MLA practice change trial, and will soon have two years of benchmarking as part of this. The key learning being a rigorous breeding program is financially beneficial for growing family farm businesses, managing cash flow and servicing debt!



**Figure 4. Comparison of "Cloven Hills" Coopworth \$ Index with breed average over time.**

### Leading sires for on-going genetic gain

We've also been watching the latest progress from across the ditch, and have sourced top sires that are proven and leading their Sheep Improvement Limited (SIL) indices in fertility and growth, as well as another sire that is commercially proven across flocks for survival in the hill country of the New Zealand (Table 3). Resilience and performance in tough conditions, is particularly important given the tight summer and autumn we have just experienced in the Western District. These sires combined with those from other leading studs in Australia and progeny testing our own rams means we are continually improving our genetic base and striving to breed the best possible animals.



**Table 4. Trait leading sires from Australia and New Zealand used in the past two years.**

Joining year	Stud & sire	Country	Key traits/ breeding objective
2012	Langley Heights 2008 - 73	Australia	Fat & muscle
2012	Waratah 2005 - 657	Australia	Growth
2012	Cashmore Oaklea - 2007- 790	Australia	Fertility
2012	Detpa Grove 2008 - 281	Australia	Growth
2012	Cloven Hills - 19 sires	Australia	Progeny testing
2012	Snowline 2006 - 12403	NZ	Survival
2012	Longdowns 2008 -1394	NZ	Balanced traits
2013	Twin Farm - 2007 - 807	NZ	Balanced and meat yield (No. 2 in NZ on DPMYI)
2013	Twin Farm - 2007 - 1699	NZ	Fertility - No. 2 in NZ
2013	Cloven Hills - 25 sires	Australia	Progeny testing (balanced traits & sires from 2012)
2013	Cashmore - 2011 - 3832	Australia	Balanced traits
2013	Cashmore - 2009 - 972	Australia	Growth and fertility

### Producing the carcasses today's consumers want

Our business is based on breeding rams and ewes which produce the ideal 18-22 kg carcase lamb, with fat score 2-3 – and lots of them! As Alistair Watson (General Manager Coles Meat), Marcus O’Sullivan (Managing Director JB Swift UK), and Steve Starnes (Strauss Lamb and Veal US) said at LambEx 2012, this is the lamb the respective domestic, European and North American markets want. For us it also happens to be the most profitable with highest c/kg price multiplied by lots of hooves on the ground! In 2008 & 2009 we worked with the DEPI to track our lambs through CRF Colac and Safeway Stawell using EID tagged lambs to gain carcase feedback on individual lambs and link it back to their dams and sires.



**Chris Cordiner with Cloven Hills lambs**

We have successfully supplied commercial lamb consignments directly to Safeway Stawell, Herds Geelong, Midfields Warrnambool and more recently to Westside Meats, Bacchus Marsh, who supply independent supermarkets and retail butchers in Melbourne. Since 2012, we have supplied more than 2000 lambs to Westside Meats and in June 2013, Kate and I followed a consignment of lambs through the kill chain with Co-owner Peter Fialli, who inspects every carcase and selects them for their customers based on their requirements. This was a little daunting, because it is the ultimate test for a professional lamb producer, to face your customer and be proud to stand next to a shipment of lambs in the coolroom with him or her. However, Peter was very forthcoming and gave us very good direct feedback on exactly the type of lamb he wants to receive. He also gave us tips on how to deliver future consignments in specific lines to make his job easier, with a commensurate premium paid to us for going to the extra effort. A few weeks later Peter and Westside’s meat buyer Ray Clarke visited “Cloven Hills” to learn more about our production system.

By building this relationship with Peter and Ray and giving them confidence in our products, we have been able to secure forward contracts, which has been rewarding. For us it has given us security in knowing we can budget on a given price for our lambs and for them it gives them consistency of supply and quality.

Producing lambs with the carcasses today's consumers want – good shape and cover, high muscle and full of flavour – is something we discussed with Channel 7's Bob Hart when he dropped in for a chat last year as part of his "Hart of the Barbeque" series. To see what Bob had to say about how to cook the perfect lamb chop, visit our website ([www.clovenhills.com.au](http://www.clovenhills.com.au)) and click on the video link.



**L-R: Chris Dorahy, Kate Dorahy, Bob Hart**

## **Making the switch to a self-replacing system - a Case Study**

David and Rahelle Bunge, Coleraine run 3000 composite maternal ewes on 262 ha, "Mawarra" near Coleraine. They recently moved to a self-replacing system because it provided flexibility and improved security from both a financial and animal health point of view. "Flexibility comes through having a range of marketing options for your sheep as meat or breeders, as well as the capacity to sell down stock if the market is right and build them up again quite quickly without sacrificing long-term numbers" said David. "This decreases financial risk and not having to buy in replacements also reduces threats to animal health".

"Our aim is to run a precise and tight system where the feed matches animal requirements with minimal supplementary feeding. "Mawarra" is subdivided into approximately 20 paddocks averaging 13 hectares with high quality pastures which are spelled in the autumn to ensure the ewes are on a rising plane of nutrition during gestation. This year our ewes were joined for 4 weeks to

lamb in September, with the goal of turning off all lambs by February. Last year we bought 875 mature "Cloven Hills" ewes and joined them in April to "Cloven Hills" and "Chrome" composite rams to achieve 177% Scanned in Lamb. We followed the rising plane of nutrition concept and ewes averaged Condition Score 3 at joining and we were very happy with this result. We are looking forward to seeing the progeny when they start hitting the ground in September".



**David Bunge**

## **Robert Claffey – Outlook**

"Over the past several years I have been impressed with the efforts of the Principals at Cloven Hills in achieving a balanced approach in their seed stock enterprise. "Cloven Hills" genetics are consistently ranked in the top 10% for maternal EBV traits. In recent times, with careful structural and type selection (classing by Mr Stefan Spiker in 2012), Cloven Hills can offer a balance of performance coupled with a robust, sound run of stock.

With confidence returning to the sheep and lamb markets, now is a good opportunity to rebuild stock numbers and consider the merits of self-replacing systems. Therefore, I encourage prospective purchasers to contact me to discuss the Cloven Hills seed stock further".

## **Grazing systems – the Fuel in the engine**

Managing the feedbase and ewe condition is critical for achieving the genetic potential of livestock and is something we have been actively working on including adopting Lifetime Ewe Management (LTEM) Principles, investing in infrastructure (fencing, laneways, water systems) and pasture improvement. Therefore, Chris enjoyed attending the recent Grasslands Society of Southern Australia workshop at Harrow and hearing what a variety of presenters had to say about grazing systems and animal health.

Here are some of the key messages and food for thought put forward at the day:

## **Peter Bailey Red Meat Project Manager - DEPI:**

- Profit is a function of pasture utilisation and ewe efficiency and so need to measure and manage these components of the system - Big ewes run at low stocking rates and rearing singles do not make for a profitable enterprise.
- Goal to maintain 1200-2800 kg/ha Dry Matter in Pastures and use containment feeding as a strategy for achieving this.
- Increase ewe efficiency by shearing 50-70 days after depasturing rams
- Weaning lambs at 90 days old (+/- 10 days) – after this time lambs are only competing with ewes for feed and ewes prevented from regaining condition prior to next joining - Lambs born in May/June and sold as “suckers” in December are costly and inefficient to produce.
- Match mating and lambing to end of season growing date (9-10 months and 4-5 months, respectively).

## **Peter Schroder – Consulting Agronomist**

- Legumes (principally sub-clover) are a key driver for pasture quality and lamb growth rate, particularly in spring as lambs take more of their energy from pasture rather than milk.
- Grazfeed modelling showed that in October lambs grazing a 3 t DM/ha pasture with 0 and 100 % clover content could grow at 215 and 359 g/hd/day respectively.
- Lambs grazing a high quality legume pasture have achieved higher weaning weights (41 kg) than those grazed on poorer feed (35 kg) at the same stocking rate. This is a critical factor when aiming to turn lambs off in the shortest period of time.
- Need to encourage legume component through minimizing standing trash at the autumn break, sow new seed if plant populations are inadequate, appropriately fertilize and manage weeds to optimise plant growth and stock performance.

## **David Rendell – Vet, Livestock Logic**

- Animal health issues arising from grazing high quality pastures are manageable and shouldn't prevent farmers from sowing Lucerne and phalaris as the benefits outweigh the risks.
- Need to be able differentiate between red-gut and pulpy kidney on Lucerne and phalaris sudden death (nervous, heart) and phalaris staggers in order to develop appropriate management strategies and responses.

