

The Dohnes' Future in the Australian sheep industry

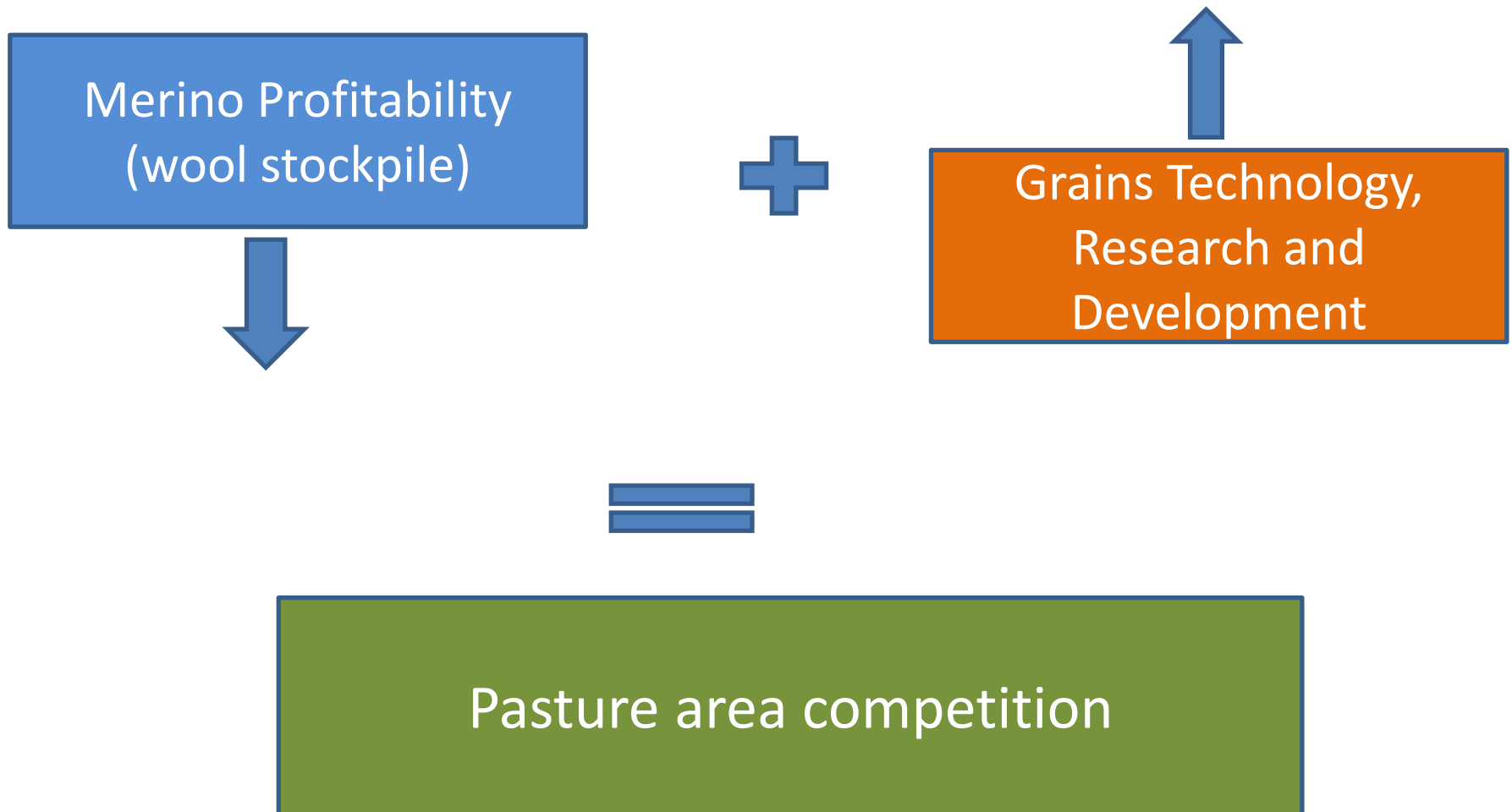
Rachel Browne

Browne Farming, Chirniminup Dohnes,
Western Australia. 2018



“If you go on a tour, you have to come home with an idea to make money to cover the trip.” ----Ken Solly

History: Mid 1990s



History: Mid 1990s

- This competition and the increase in red meat consumption lead to astute farmers assessing other cropping options or sheep types to suit current markets, and the key factor was profitability.

Present: 2016 & 2017

- The Dohne entered Australia and has made its' mark. In 2016 and 2017, with the current increase in wool and meat prices, the profitability of stock enterprises is rapidly catching up to grain gross margins, creating a re-think back to mixed farming rotations.



\$↑

+



\$↑



Profitability

- key to future sustainability of family farms worldwide
- If we are not making a profit, equities do not last long
- Every commodity we produce needs to be continually analysed
- Some weighting added or subtracted for synergisms or antagonisms in the rotation
- Ultimately: looking for overall farm profitability.

Future

- Strict procedures of testing performance and ASBV generation creates a strong backbone to monitor key profit driving factors going forward
- Increasing technologies in areas such as genomics, micro chipping, virtual fencing/mustering and other labour saving methods
- The Dohnes' do-ability in a moderately harsh climate like Australia

sets the Dohne up for an exciting and profitable future

A prosperous future for this little Dohne and the breed Globally



A variety of breeds have been introduced into Australia since the 1980's. Imports have been driven by:

- Changes in wool industry demand and profit
- Live sheep market needs and demand
- Increasing prime lamb production focus and
- To offer producers alternatives to traditional wool or lamb production systems

Flock and Wool Trends

Coinciding with the Dohnes introduction in 1998/99 we have seen significant declines in:

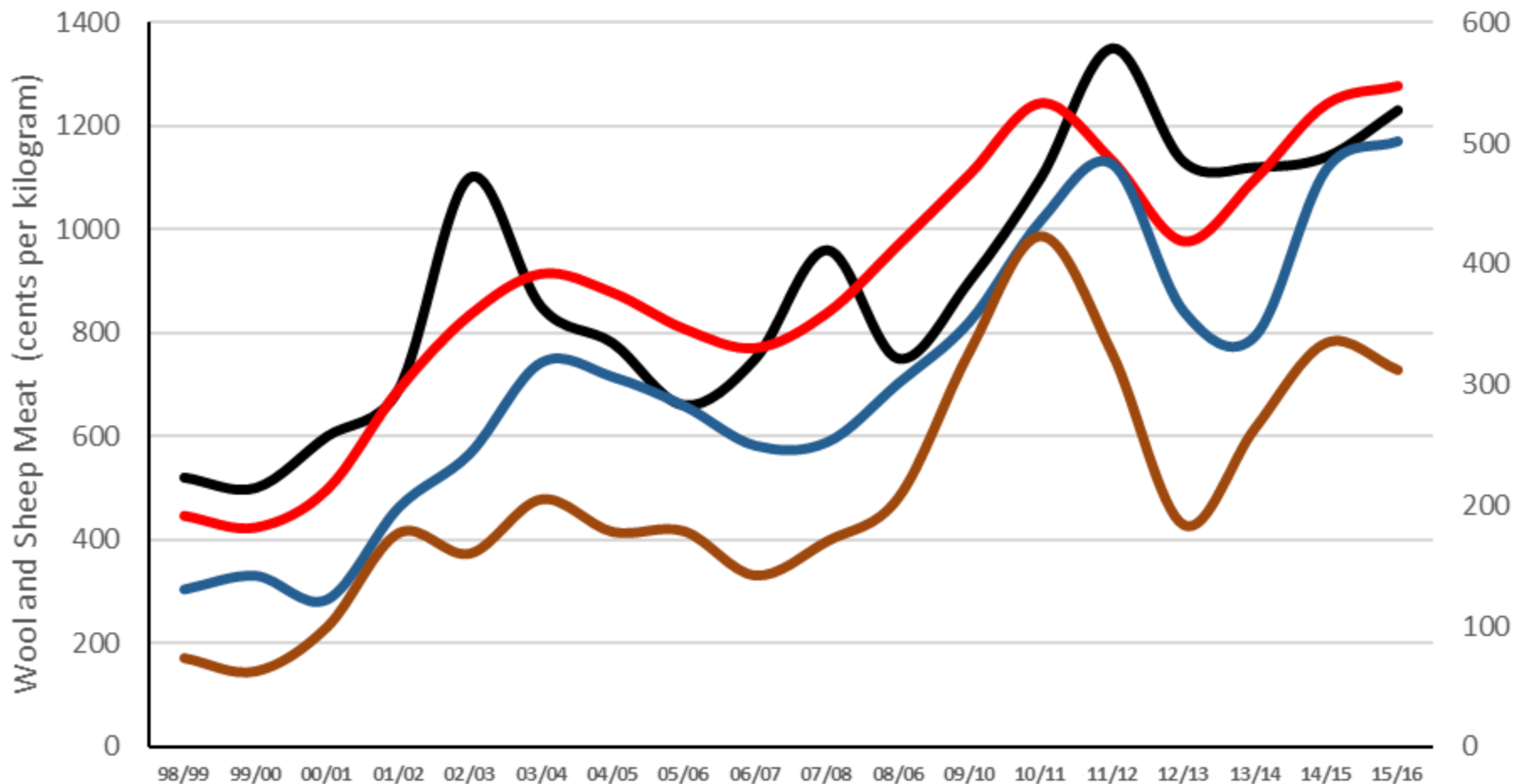
- Flock and Wool Trends
- National sheep numbers
- Wool production
- Finer wools premiums and
- Average price range between micron categories

Sheep Meat Trends

During this same period however we have also seen significant improvements in:

- Wool
- Trade Lamb
- Merino lamb and
- Mutton values

National Sheepmeat and Wool Prices (cents/kg) (1998/99 to 2015/16)



EMI (cents/kg cfw) LH Axis
 Trade Lamb (18-22kg) RH Axis
 Merino lamb (18-22kg) RH Axis
 Mutton 24kg+ (c/kg) RH Axis

Sheep Meat Trends

- Nationally our sheep industry's estimated gross value of production (meat vs wool) sits around ~ 60:40
- A Dohne enterprise sheep meat/wool income share has averaged 70:30 based on Gross Margins Geoff Duddy has undertaken since 2007



So what is the Dohnes' Role

- Self replacing

1. Greater control of genetic gain
2. Rebuild national ewe base
3. Reduced biosecurity risk

- Plain bodied / open faced / bare breech

1. Fertility advantages
2. Reduced reliance on mulesing
3. Improved animal welfare

So what is the Dohnes' Role

- Early maturing with Merino wool
 1. Continue to benefit from high sheep meat returns
 2. low worldwide wool stocks/price resurgence
 3. Must however maintain focus on ewe weight/wool balance and ewe efficiency

So what is the Dohnes' Role

- Improved fertility / fecundity / weaning percentages and survival rates

1. Strongly influenced by breeds genetic fat and muscle
2. Emphasis on wool cut per head

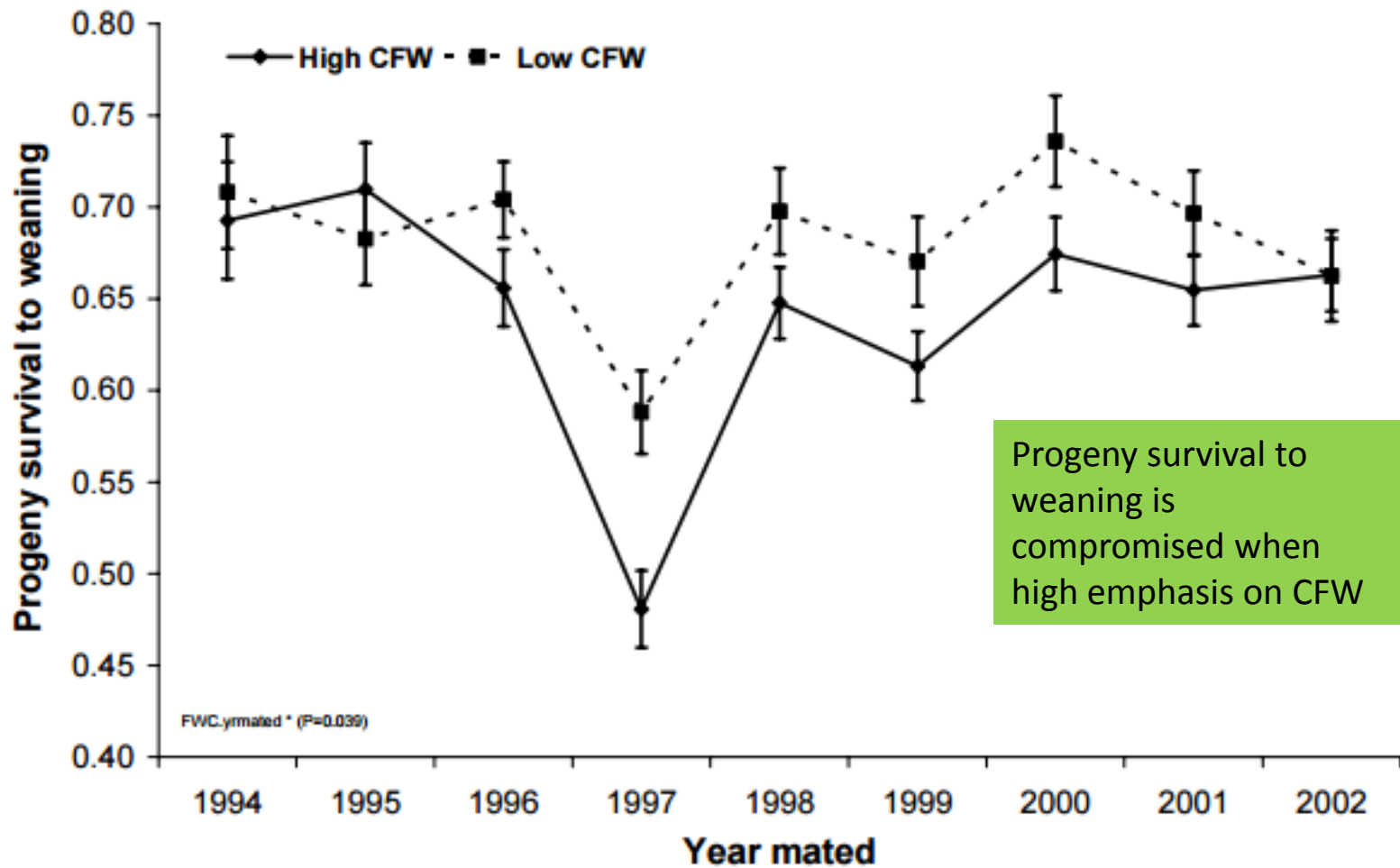
So what is the Dohnes' Role

Wool production impact:

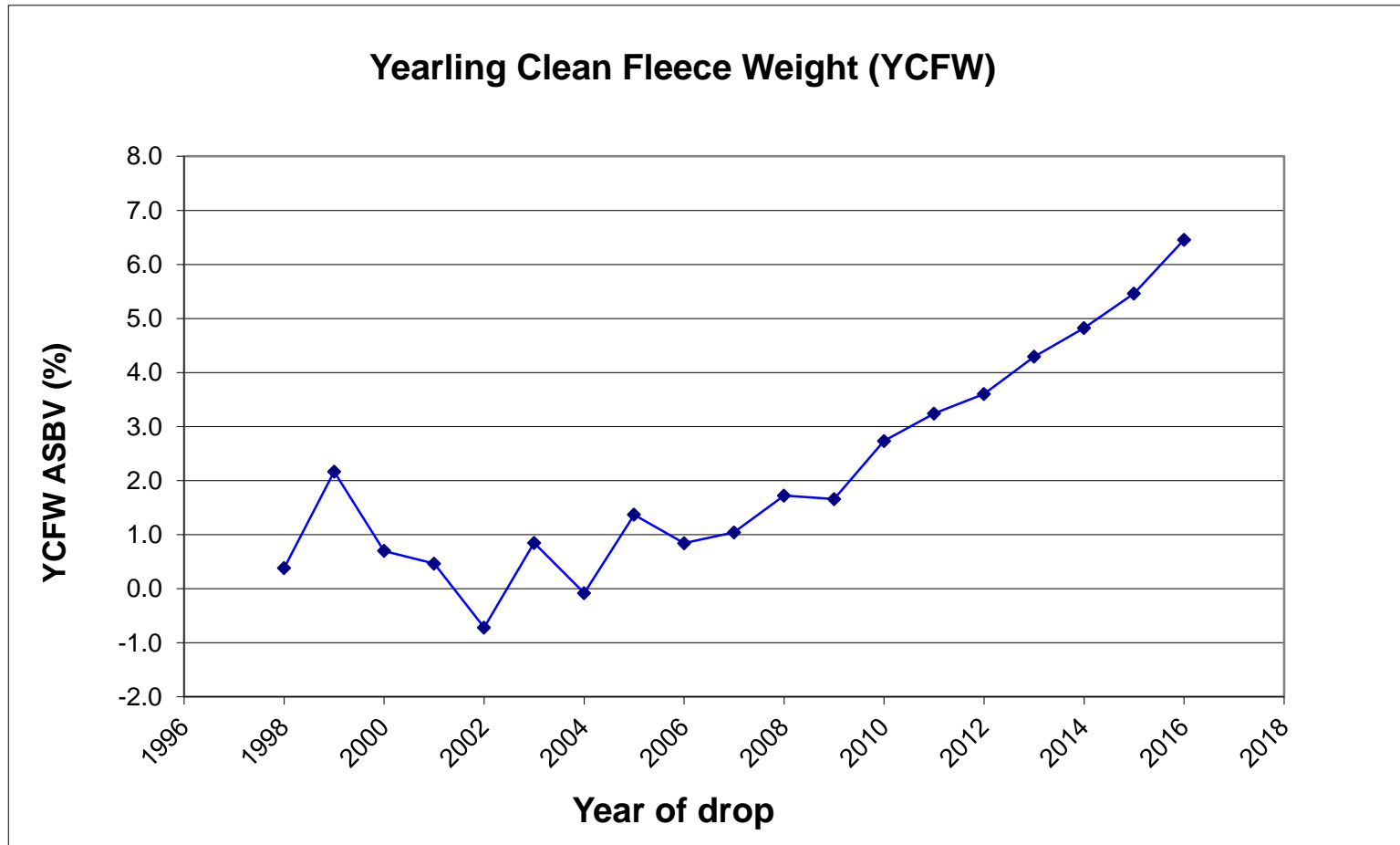
Hatcher and Atkins (2007) data analysis showed that CFW had no impact on the ability of a ewe to:

- conceive,
- the proportion of ewes lambing,
- litter size or
- the number of lambs born but

did have a significant impact on the number of lambs weaned



Hatcher and Atkins (2007)



- Do we run the risk of losing the maternal/weaning ability of the ewe by stacking too much wool on?
- Will it result in decreased NLW?

So what is the Dohnes' Role

- Ewe efficiency / resilience / hardiness / fitness

1. Currently a major industry focus
2. Production per kg/ha/DSE/100mm rainfall etc
3. Production efficiencies

- 60% of feed need required for ewe maintenance
- increasing lamb number per ewe reduces energy required by ~ 40% per kg of carcass produced
- Improved twin survival is a major profit driver

So what is the Dohnes' Role

- Hybrid vigour when crossed over Merino base
 1. 10-15% improvements in reproduction
- Increased speed of genetic gain
 1. reduced generation interval,
 2. earlier mating of ewe progeny etc

So what is the Dohnes' Role

- Reduced costs of production
 1. Improved weaning percentages and survival
 2. Easier care
 3. Reduced fly issues
- Full pedigree and performance recording
 1. A major production advantage

In Summary

- As a dual-purpose breed an ability to capitalise on changes in wool/sheep meat and breeding ewe values
- An on-going role with increasing the national breeding ewe base and production efficiencies

Therefore the Dohne plays an increasingly important role within the Australian Sheep Industry.

The ADBA would like to thank:
Geoff Duddy, Sheep Solutions
Leeton, NSW Australia

For his contribution

**THE DOHNES' ROLE IN THE
AUSTRALIAN SHEEP INDUSTRY** (2016)



Wayne & Sally Hawkins South Australia

MATERNAL QUALITIES OF THE DOHNE



Maternal Qualities of the Dohne

- Dohnes are perfect for Australian conditions
- Dual purpose meat and wool sheep
- Natural breeders - ease of lambing

- Very fertile - cycles (pregnancy testing)
- Strong body structure & constitution
- Caring mothers

Maternal Qualities of the Dohne

- Dohnes are great milkers
- Their lambs are small at birth, with a high survival rate
- Lambs mature early
- Dohne ewes are docile mothers
- They are easy care & low maintenance
- Intelligent sheep



Lessons learnt at Circle H Farms

How to breed a bigger, stronger, and larger framed Dohne dual purpose ewe

Lambing % increased by up to 30% with fewer lamb and/or ewe deaths

Fast growing, early maturing lambs in both paddock and feedlot situations

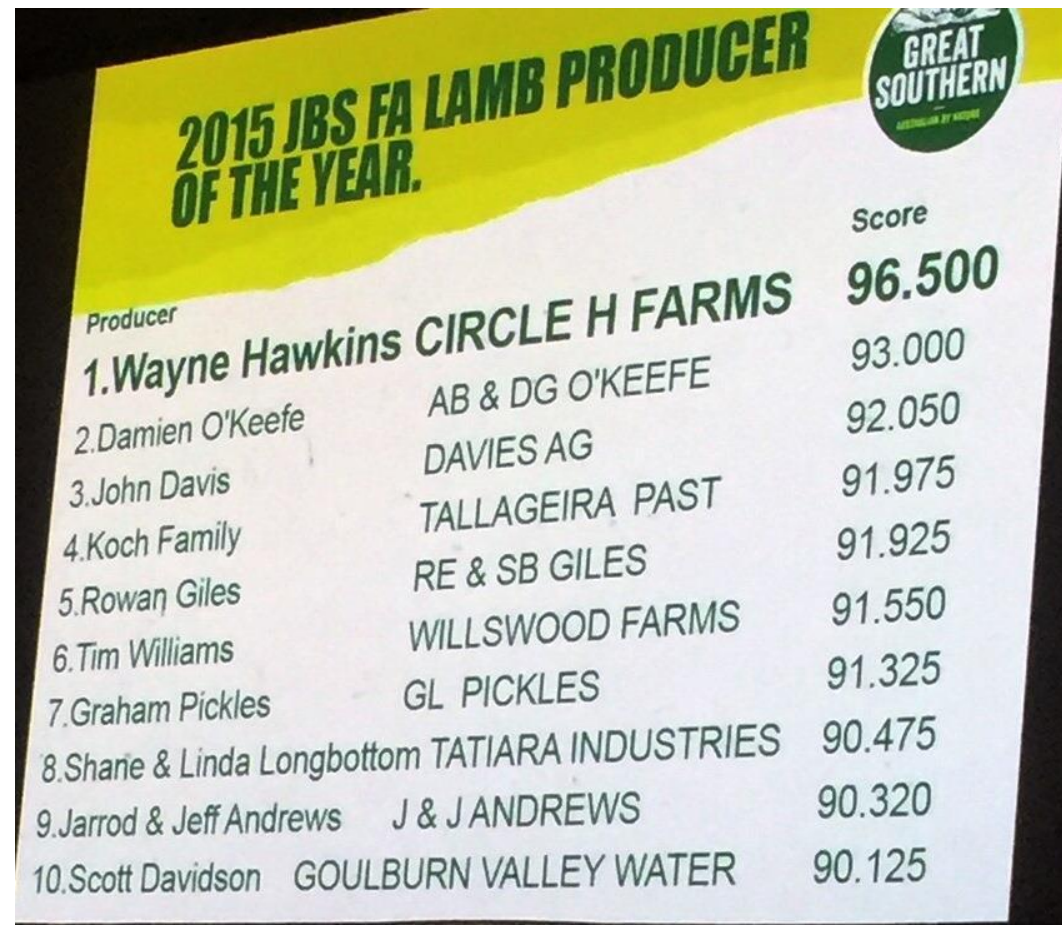
Business Success in 2015

“Cropping guy wins award for sheep”.



Success due to the Management Program of Dohne Maternal Ewes

- Dohne Breeder wins 2015 JBS Lamb Producer of the year with 96.5% out of possible 100%



The image shows a certificate for the 2015 JBS FA Lamb Producer of the Year. The certificate is yellow and white with a green circular logo in the top right corner that says "GREAT SOUTHERN AUSTRALIA BY NATURE". The title "2015 JBS FA LAMB PRODUCER OF THE YEAR." is written in large, bold, black letters. Below the title is a table listing the top 10 producers and their scores.

Producer	Score
1. Wayne Hawkins CIRCLE H FARMS	96.500
2. Damien O'Keefe AB & DG O'KEEFE	93.000
3. John Davis DAVIES AG	92.050
4. Koch Family TALLAGEIRA PAST	91.975
5. Rowan Giles RE & SB GILES	91.925
6. Tim Williams WILLSWOOD FARMS	91.550
7. Graham Pickles GL PICKLES	91.325
8. Shane & Linda Longbottom TATIARA INDUSTRIES	90.475
9. Jarrod & Jeff Andrews J & J ANDREWS	90.320
10. Scott Davidson GOULBURN VALLEY WATER	90.125

Dohne Maternal Ewe Management

- **Conception** –

timing and feed management

- **Survival** –

timing, feed & management

- **Growth Rate** –

genetics & feed type & quality

- **Ewe Wastage** –

classing, age, feed management

- **Ewe Efficiency** –

classing, scanning, age, feed management

Vision for the future

- Can the Dohne breed become the benchmark for the sheep industry?
- Dohnes breed like a crossbred and grow wool like a merino.

The ADBA would like to thank:

Wayne & Sally Hawkins

Circle H Farms

Frances, South Australia

For their contribution

THE MATERNAL QUALITIES OF THE DOHNE (2016)

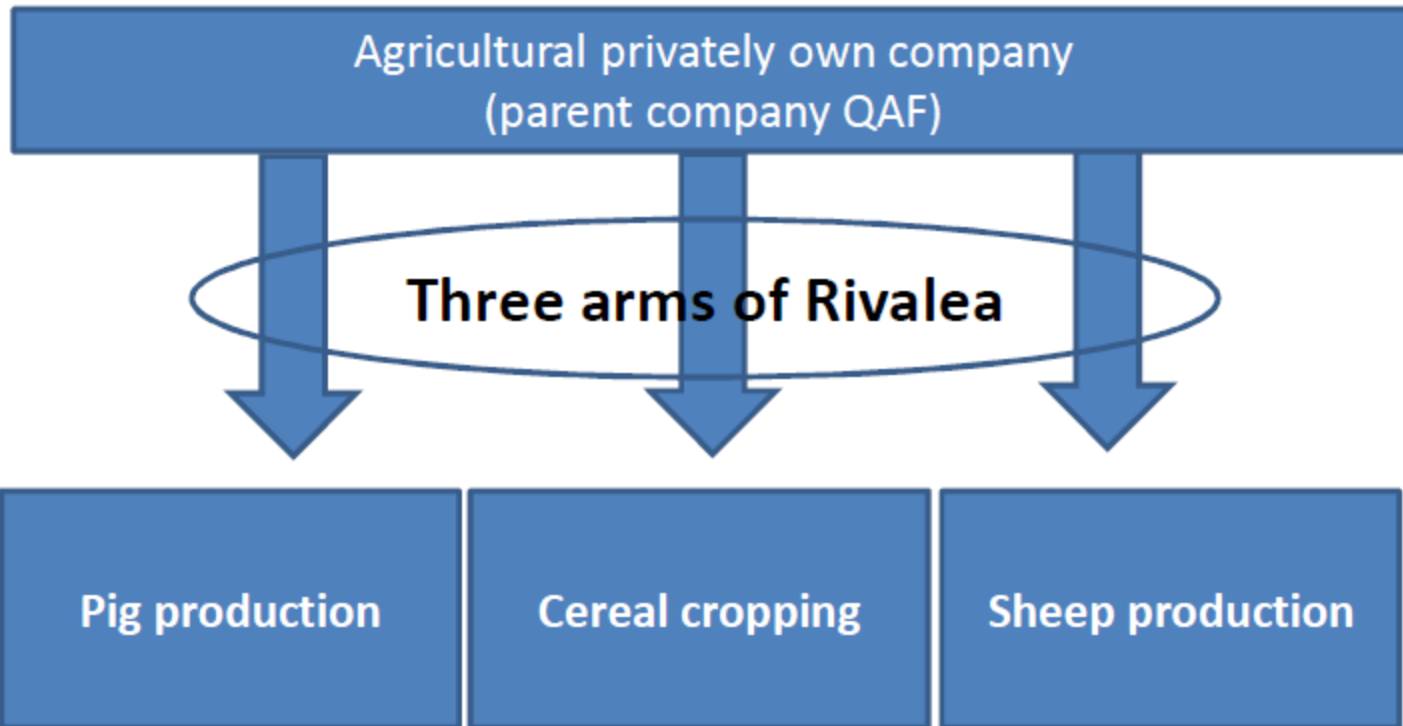




Rivalea

A U S T R A L I A

QUALITY + PEOPLE + INTEGRITY



Rivalea Investments

- Pig Production
 - Slaughter 700,000 annually
 - Vertically integrated business
 - 17% share of Australian pig production
 - 1200 employees
- Cereal Cropping
 - 10,000 hectares sown
 - 3 grain production (60% wheat, 15% canola, 25% barely)
 - 70 % that goes through the mill for production
 - 4 employees



Breeding background

- Previous to 2011: Merino bloodlines
- Sheep run on two properties in NSW, one used for breeding, the other a grow-out property
- Lambs not reaching slaughter weights before hogget age at either property
- Lambing percentages were below industry average.

Rivalea Aims

Breeding objectives

- Self replacing dual purpose sheep flock
- Quality Merino fleece
- Slaughter wether lambs before 12 months at appropriate carcass weight
- Increase staple length to shear every six months
- Ethically produce wool and meat “*i.e. move away from mulesing*”

The previous Merino enterprise struggled to meet these objectives efficiently

Lambing Management

- 2% rams for 42 day joining
- 600 ewes per mob for lambing
- In the first mating ewes went from previous 90% ave for Merino to 120% for Dohnes.
- Increased marking % attributed to excellent mothering ability of the Dohne ewe

Weaning Management

- Lambs weaned at 12 weeks onto improved lucerne
- Once grown out, into feedlot for 44 days or until 52kg liveweight
- Growth rates and feed conversion efficiency calculated for period spent in feedlot

The offspring



Grown out on pasture. Finished on feedlot before 12 months

Table 1. Feedlot performance of Dohne lambs at Rivalea.

	Start	Middle	End	Average
Average weight (kg)*	31.6	38.9	45.6	NA
Average daily intake (kg/day)	NA	1.37	2.00	1.71
Weight gain/sheep/day= (g/day)	NA	364	279	318
Feed conversion ratio (kg)	Not estimated	3.80	7.21	5.39

- The progeny displayed exceptional feed efficiency which increased as the time passed.
- The average weight gain was fast and consistent until the appropriate weight range was achieved to slaughter.
- Anecdotal reports suggest that the growth rates achieved by the Dohne breed were greater than what was achieved in the previous Merino enterprise.

Feedlot performance

- Dohne lambs consistently doing 320gms/hd/ day in paddock feedlot situation
- Achieving feed conversions of 4 to 1 and better
- Dohne lambs are performing as well as terminal breed lambs through the feedlot
- Extremely easy to start on grain

Summary

- The performance of the Dohne breed has met all expectations at Rivalea. The performance of the sheep at both properties has seen dramatic improvements in growth potential, lamb survival and mothering ability. The benefits of these qualities are providing significant financial benefits to the company.

The traits the Dohne breed is becoming renowned for are truly on display in this flock.

The ADBA would like to thank:

Barry & Marcia Hutton

Rivalea Australia, Agricultural Managers,
Corowa NSW Australia

For their contribution

FEEDLOTING DOHNES AT RIVALEA (2016)



Introduction

- Dohnes are a true dual purpose sheep breed
- How to assess whether they stack up financially
- How they do stack up financially
- Other factors that impact farm performance

A Dual Purpose Breed

- Cross between a SAMM and medium wool Merino 50 years ago in South Africa
- Wool and meat balance the aim
- Early adoption and implementation of a clear breeding objective with modern genetic tools
- Introduced into Australia 20 years ago
- Other dual purpose sheep generally have poorer wool production characteristics than the Dohne

Assessing How Dohnes Stack Up

- GrassGro[®] is a CSIRO developed computer program that models the returns and productivity of different sheep and beef cattle enterprises over the long term. It uses soil type, weather data, financial data and animal production traits to simulate a grazing system.
- Insufficient numbers of real animals in Australian production systems to allow analysis of raw data.



Model the Breed Differences

- GrassGro[®] has been validated to model livestock and pasture systems in great detail across Australia
- Some key traits don't require a large number of measurements to get accurate estimates:
 - Wool
 - Bodyweight
 - Growth
- GrassGro[®] uses sheep biology to model reproductive rates, so there is confidence in the output.

Dohnes Stack Up Well

- Assumed last 10 years real wool and meat prices (Sourced from AWEX, ABS and MLA)
- Used both South African and Australian comparisons for wool and bodyweight differences (were similar)
- Reproductive results = benchmarking results and other comparisons for Fine Wool Merino & Crossbred
- Therefore: confidence that Dohne result is biologically sound from GrassGro®

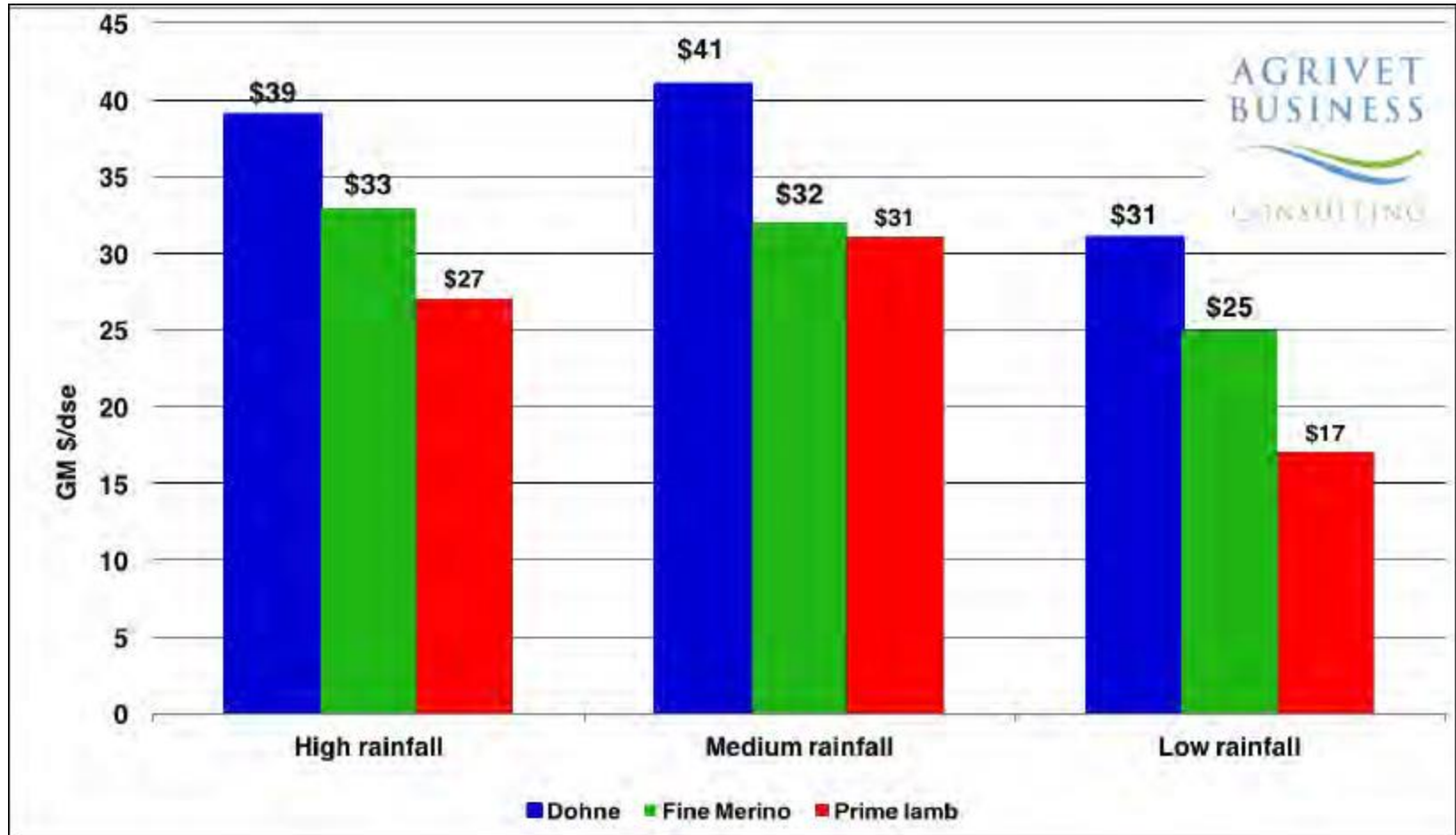
Reproductive Results

- At Hamilton, Victoria with 655 mm over study period
- Fine wool Merino lamb marking percentage = 77%
- Dohne lamb marking percentage = 94%
- Crossbred lamb marking percentage = 115%
- Fine wool and Crossbred in line with industry results
- Provides confidence that Dohne result is about right

Production Results

- Dohne wool cut was 10% lower than medium wool strain with Fine wool cut similar, but 2.9 μ broader
- Dohne ewe bodyweight 20% higher than Fine wool Merino and Crossbred 10% higher than Dohne
- Crossbred fibre diameter at 28 μ
- Along with reproductive rates drove very different outcomes from where income was derived from
- All enterprises were profitable in comparison to long term farm benchmarking results

Gross Margin \$/dse



Other Factors

- This analysis doesn't mean that running Dohnes is a license to print money
 - But it's a good start!
- These are only “averages” for the breeds
- Big variation within breeds
- Environmental factors apart from rain not accounted for
- Labour costs, ease of care and interest should be accounted for as the previous figures are not profit
- Commodity prices as well as seasons vary enormously

Summary

- GrassGro[®] has been validated to model livestock and pasture systems in great detail across Australia
- Excluding variables such as labour costs, interest, commodity prices and environmental factors (but not rain), **Dohnes make a higher Gross Margin \$/dse than any other sheep breed in Australia.**

The ADBA would like to thank:

Dr Graham R Lean
Agrivet Business Consulting
Hamilton VIC Australia

For his contribution

**DOHNES: HOW THEY STACK UP
FINANCIALLY** (2016)

SO.....

back to the original question:

What is the Dohne's Future in the Australian sheep industry?



Versatility

How the Dohne compliments other breeds...

Dohne ewe with a Dohne Sire

- Self replacing
- High fertility
- High fecundity
- Apparel merino wool
- Prime lamb

Dohne ewe with a terminal Sire

- Prime lamb dam
- High fertility
- High fecundity
- Apparel merino wool
- Prime sucker lamb

Merino ewe with a Dohne Sire

- Self replacing
- Improved fertility
- Faster growth rates
- Apparel merino wool
- Quality lamb carcass
- Progeny become prime lamb dams

Composite ewe with a Dohne Sire

- Prime lamb dam
- Reduction in micron by 8-10.
- High fertility
- High fecundity
- Prime sucker lamb
- Leaner carcass
- Self replacing