

2016
GLOBAL DOHNE CONFERENCE
Celebrating **50 years**
"A must for all sheep producers"
JULY 21 -22 | AUSTRALIA

R&D for industry growth

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The banner features a globe on the left showing Australia, a blue abstract wave graphic on the right, and the DOHNE AUSTRALIA logo in the top right corner.



Vibrant, productive & Merino - requires both ...

Clear, preferential demand for our Merino wool and sheepmeat outputs

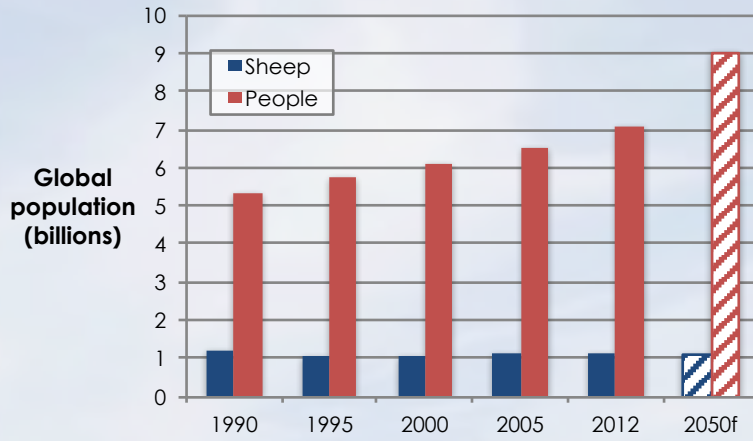
+

Tools and attitudes to achieve cost-effective productivity growth

awil Australian Wool Innovation Limited

The advertisement features a central image of a ball of white wool. The text is overlaid on a semi-transparent grey background.

Ours are rare & expensive proteins...



Demand & alternative land use pressure will cap sheep numbers

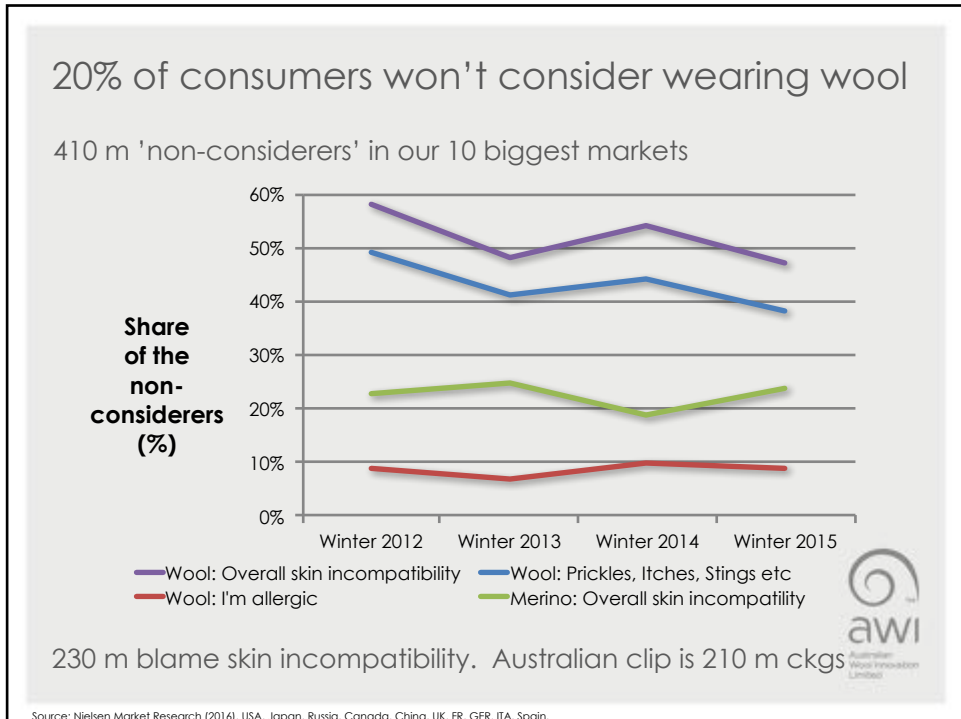
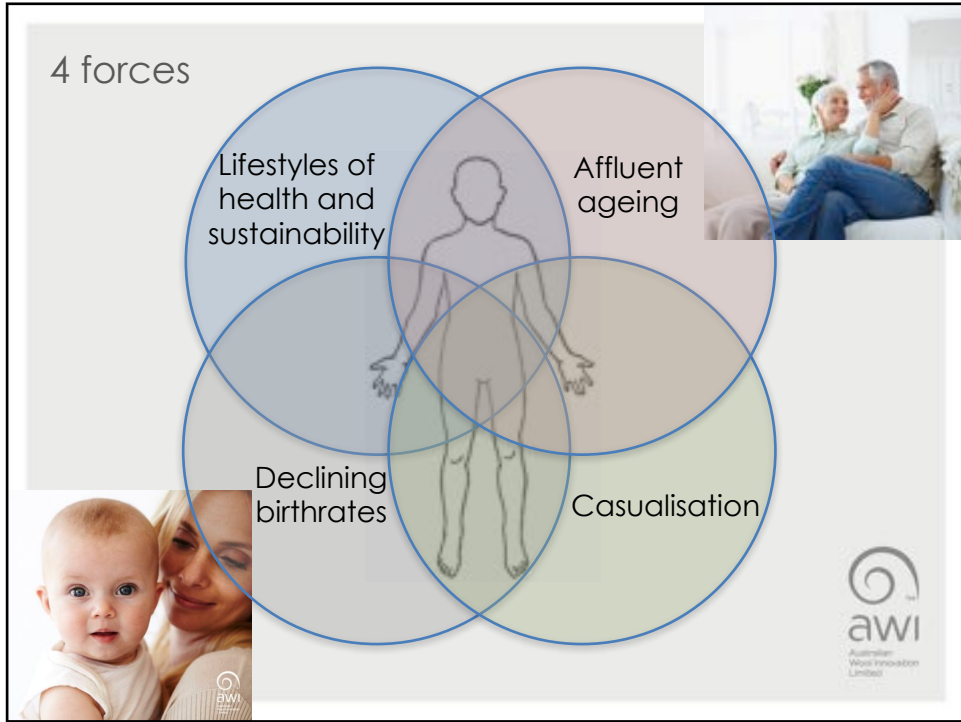
Data source: UN (2012), IWTO (2014)

We need to adapt to the needs of a new world...



Most forecast growth in affluence, meat & clothing demand will occur in warm humid climates – not cool temperate

Image source: <https://iayin30seconds.files.wordpress.com>



Fine Merino is healthy for your skin

Approach:

1. Pick a problem Merino can solve
2. Gather needed clinical evidence
2. Challenge medical perceptions
3. Develop needed specifications

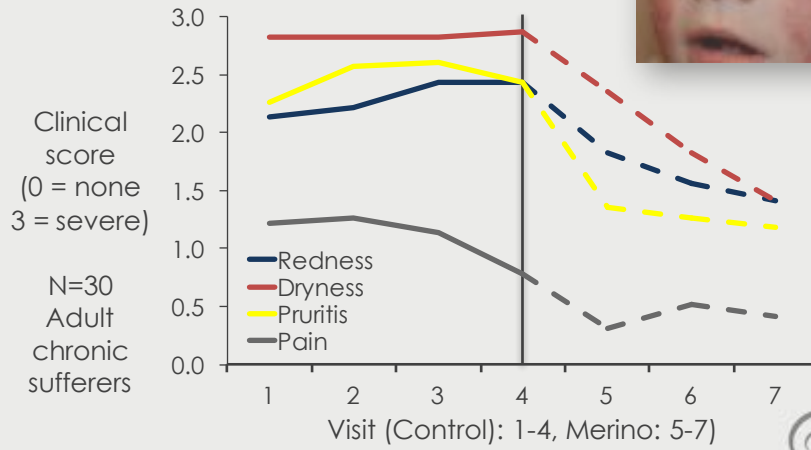
We chose Atopic Dermatitis –
chronically dry skin.

10 - 20% of children nowadays



Image sources: <http://health.bwera.unsw.edu.au/photos/0001.htm>
<http://medical.xbow.com/ency/d/derm-0101011m>

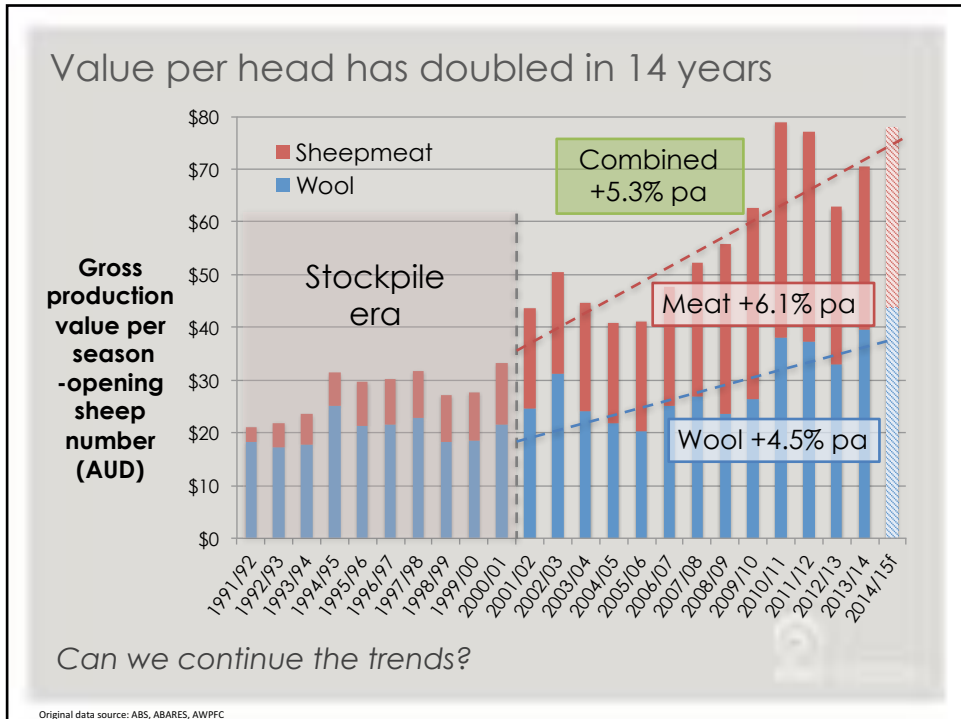
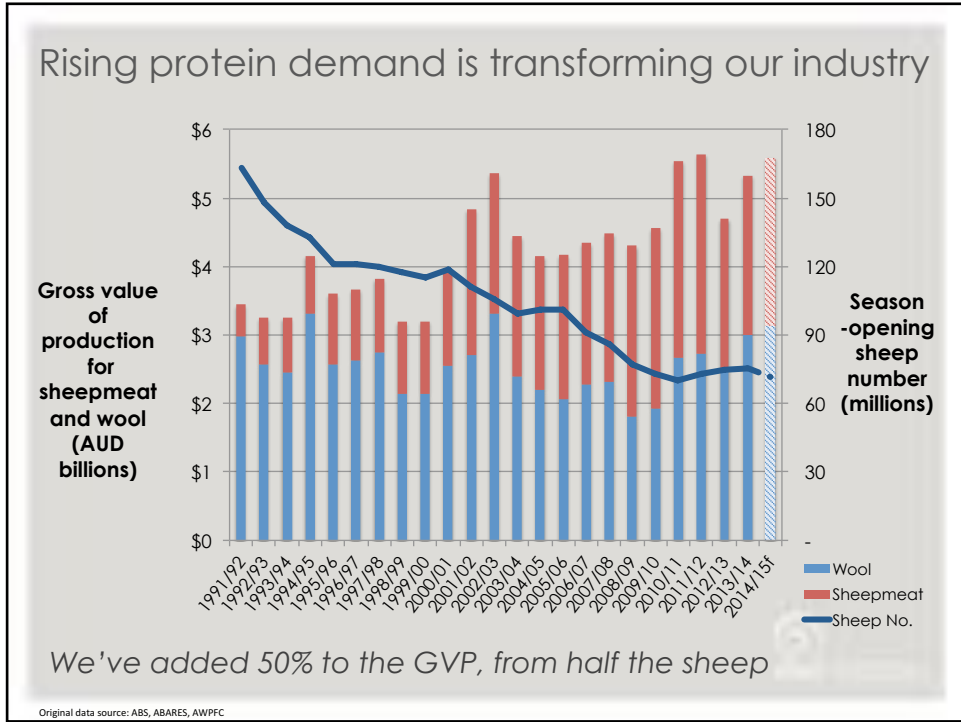
Clinical trial results



Dermatologists want a non-irritant 'tick' or guarantee!



Source: Queensland Institute of Dermatology, paper accepted for publication in British Journal of Medicine



Ewe numbers will remain low

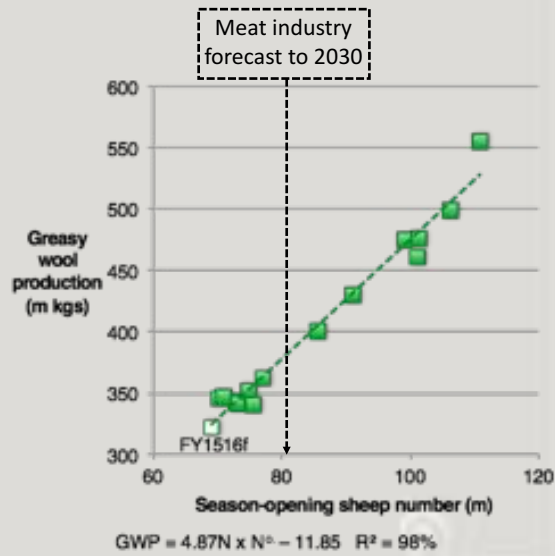
If adult ewe numbers are going to remain historically low ...

... our ability to grow sheep industry wealth depends on growing productivity per ewe

Her **lifetime**:

- **lambs weaned**
- **fleece value**, especially fleece weight

So, what are we doing?



Original data source: ABS, ABARES, AWPFPC

Combatting Wild Dogs

We support:

- local groups (104 thus far, 45 active - over 2.3 m sq km; 1.2 m sq km in WA alone)
- national & regional coordination
- R&D (e.g. aerial bait rates, etc)

Winning battles, not the war:

- Groups reduce stock losses (avg. 70%). ROI \$9:1
- Protected access to existing baits, developing new



Source: www.wool.com

Lifetime Ewe Management

- Original research started in 2002
- 2,100 have completed Yr 1
- They lift lamb marking (7 - 11%), & lower ewe loss (33%).
- ROI: \$13 : 1. 19% of ewes now covered; aiming for 50%
- 2-year waiting list being addressed – LTEM 7 starting soon
- App versions released.
- Regional variants coming



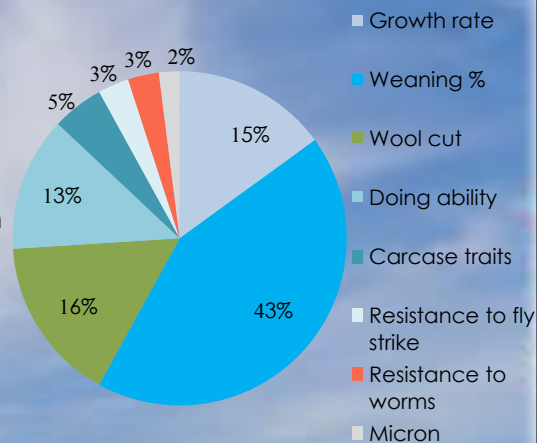
Implications and opportunities

Implications:

1. Merino ewes & ewe lambs in short supply : high price
2. Tight wool supply
3. Pressure on growers to maximize lamb production

Opportunities:

- Fast-track LTEM to 50% of ewes by 2019
- Increase awareness and selection for lifetime performance





Merinos
to
Market

What is lifetime economic value?

- In a typical self-replacing wool sheep flock today:
 - 90% of the wool produced is from ewes of all ages
 - 75% comes from joined ewes (maidens to 5 y/o's)
 - 37% comes from mature age ewes (4 and 5 y/o's)
- Average ewe is shorn 5 - 6 times, joined 4 times, & rears 3.4 lambs for you. She is normally cast-for-age at 6y/o
- Her lifetime contribution to you is around \$485, using today's sheep meat and wool prices

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Using Lamb = \$110, Fleece = \$40, Salvage ewe value = \$70



Merinos
to
Market

NSW DPI data (3 Merino flocks)

Passenger (25%)

Rear 1.2 lambs
53% of lambs die
Wean at 30%/ej



Performer (25%)

Rear 5.4 lambs
10% of lambs die
Wean at 136%/ej

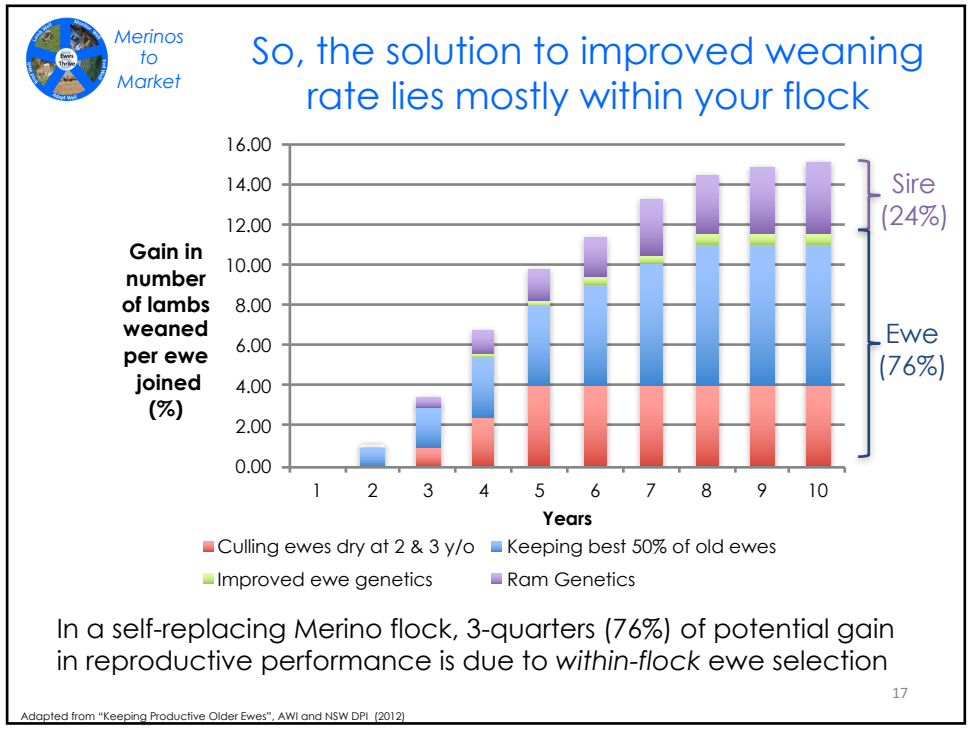


Average ewes (50%)

Rear 3.4 lambs (27% of lambs die, weans at 84%/ej)


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Lee, G.J., Atkins, K.D., and Sladek, M.A. (2009) Animal Production Science, 49, 624-629.



Genetic benchmarking of lifetime performance

- AWI will invest \$4 m over 10 yrs, in partnership with AMSEA
- 4 sites across Australia (120 sires)
- 180 nominations thus far
- 25% of sires are new to across-flock benchmarking.
- Elders Balmoral (Tuloona), Temora, and Pingelly (WA) sites underway.
- 4th, and possibly 5th sites coming

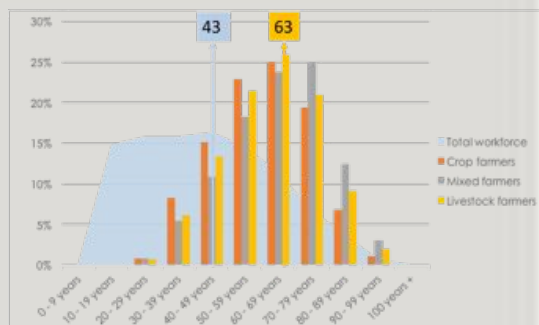


New challenges, practical skill, practice change

1. Weigh, scan, and body condition score!
2. Run adult ewes in fertility-based mobs (not age)
3. Lamb in small mobs (the smaller the better)
4. Wet/dry assessment at lamb marking. Ear tag ewes who were dry or have lost lambs
5. Don't cast for age alone (e.g. 5.5 y/o)
6. Maintain balance of meat and wool, in the context of assessed lifetime performance

Some implications

1. Livestock farmers average 20 years older than the overall workforce (63 vs 43 years of age)
2. On average, they manage \$3.3m of business assets
3. Over the coming decade, retirements will lead to...
 - Around \$400 billion in asset transfers required
 - Recruitment challenges
4. They work an average 49 hours of work per week



Sources: ABS 4102.0 Australian Social Trends, December 2012
 Australian Farm Institute, "Farmers are getting older, but it's not a problem", October 2013



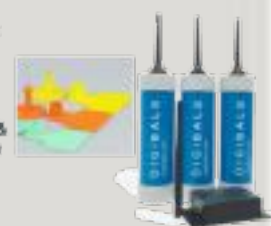
Farm automation innovation


Smart ear tags:

- maternal pedigree (mothering up)
- behaviours (onset of lambing)
- localisation within paddock (theft, dog alerts, grazing)

Hardware components: smart tag & sensor node

- smart tag to broadcast unique ID and sensor data
- sensor node to read broadcasted ID, RSSI & sensor data, compress and send to server along with additional local sensor values





Low off-the-shelf costs : < USD10 per ewe

AWI farm trials start later this month

