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It's ewe time!

Introduction Comments SkinTraction® R&D phase Update

- Geoff Lindon - AWI
- Ian Evans - AWI



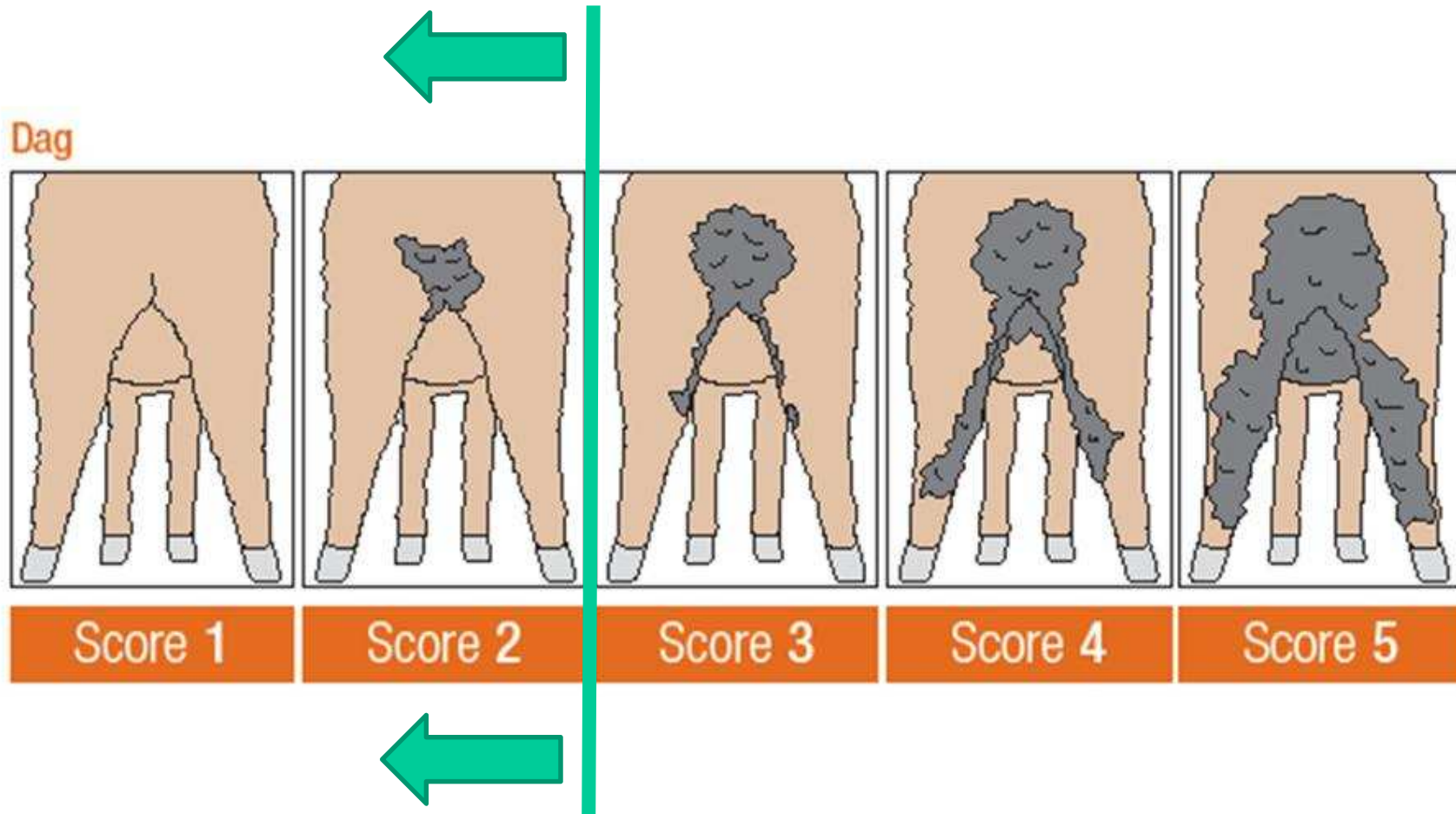
EVENT
PARTNERS:



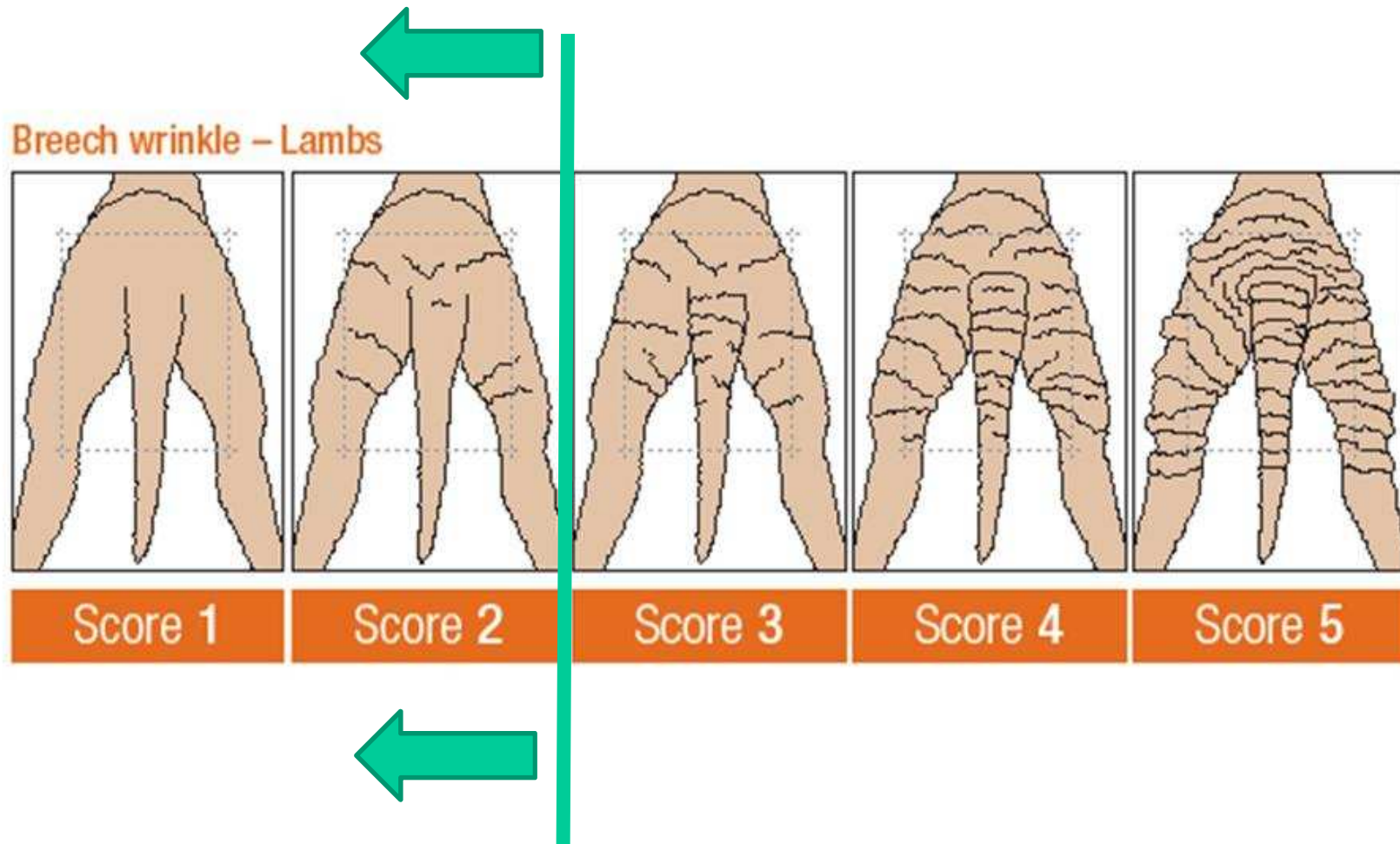
EVENT
SUPPORTERS:



Visual Scores – Dag

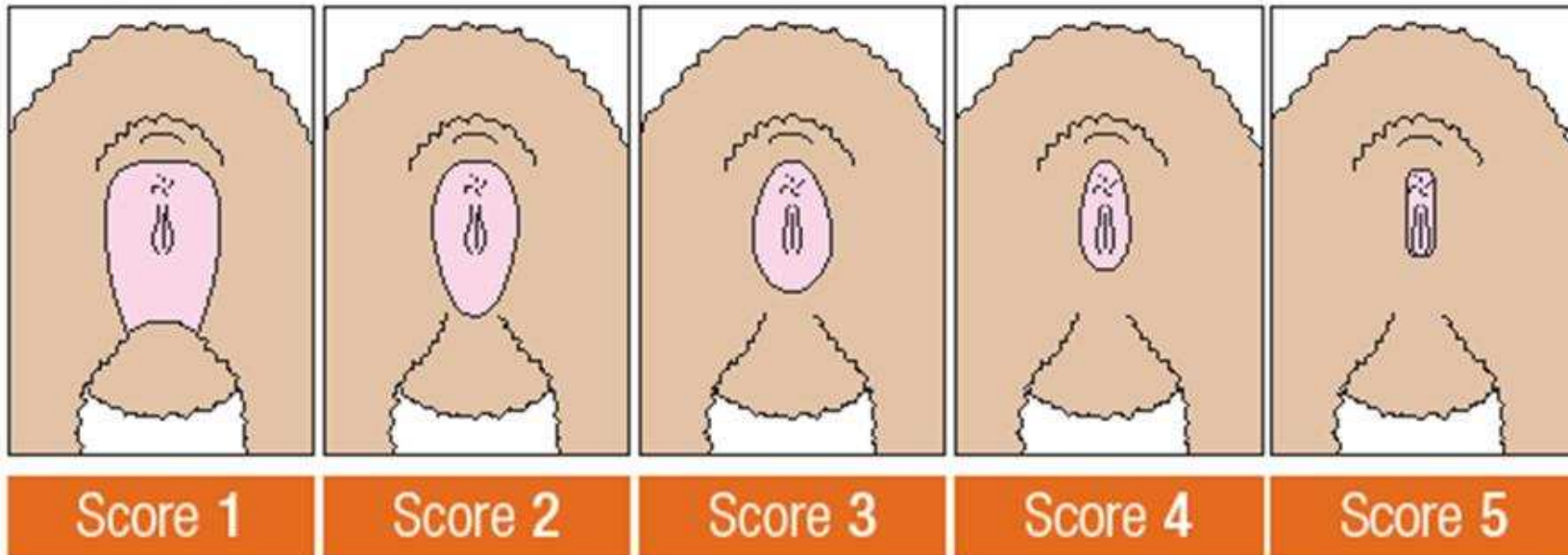


Visual Scores – Breech wrinkle - Lambs

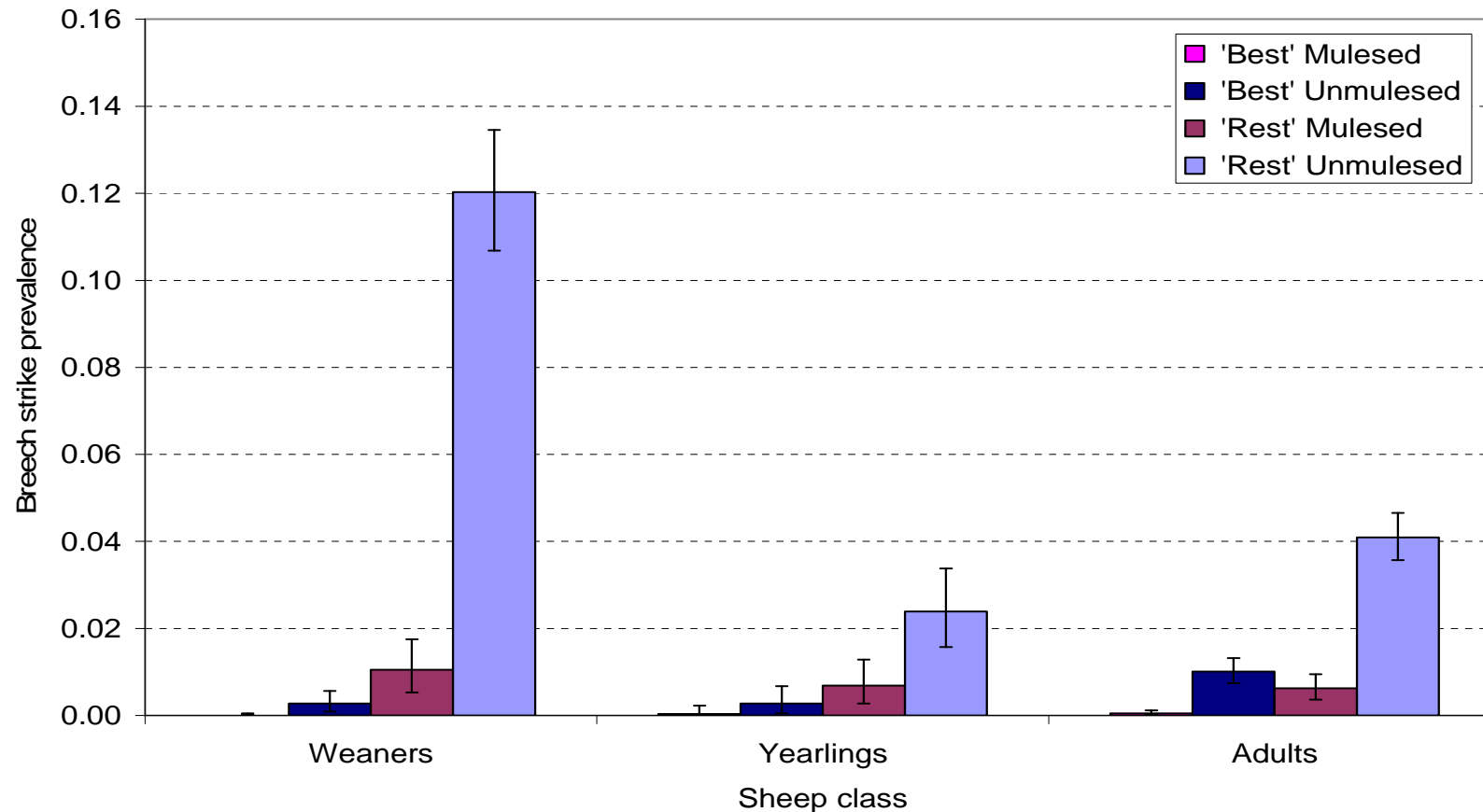


Visual Scores – Breech cover

Breech cover



Breech Strike Best V Rest - Armidale Flock



Weaners (2006–2009 drop), Yearlings (2006-2008 drop) and Adults (2006-2007 drop)

Best “both post-weaning breech wrinkle and dag = 2 or less” **Rest** “the remainder”

The Challenge

- Develop an animal welfare friendly method to:
 - Increase breech & tail bare area
 - Remove breech and tail wrinkles

“SkinTraction®” The compound

- Selected Sodium Lauryl Sulphate (7% SLS)
 - SLS used in toothpaste, shampoos (1-30%), cosmetics and food
- Formulation includes benzyl alcohol
 - Short-term (15mins) anaesthetic and preservative

“SkinTraction®” Mode of Action

- SLS denatures protein
- Causes irreversible damage to:
 - Neural network
 - Blood vessels
 - Collagen structure

“SkinTraction®” Metabolism

- **Unreacted SLS**

Metabolised by the liver

>95% is excreted in the urine within 12 hours of treatment

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“SkinTraction®” Delivery System – Pulse NeedleFree System



**Trigger held and
pressure of tubes
against skin fires
applicator**



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“SkinTraction®” Pulse Applicator

Tube Detail



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“SkinTraction®” Delivery System Air Compressor & Metering Device



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“SkinTraction®” Delivery System

- **SkinTracting**

- Weaners freshly crutched 3 to 9 months
(Lambs at 2 to 12 weeks old on hold)
- Use standard lamb-marking / crutching cradles
- Pulse NeedleFree Systems manufactured in USA
- Air compressor powers Pulse NeedleFree applicator

“SkinTraction®” Pulse Applicator

- **Applicator Variables**
 - Volume per shot
 - Volume per tube
 - Number of tubes per head – 9 verse 16
 - Pressure of tubes against skin surface (shroud)
 - Liquid pressure
 - Tube diameter
 - ID – interacts with liquid pressure
 - OD – interacts with fleece penetration and durability

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“SkinTraction®” Pulse Applicator

- Sheep Variables
 - Age of animal – lamb verse weaner
 - Burr and dag
 - Wool length
 - Pattern of application
 - Skin variables

“SkinTraction®” Pulse Applicator

- Operator Variables
 - Loading of tubes against skin surface
 - Pattern of application
 - distance between applications
 - replicate pattern
 - Training
 - Assessment
 - Auditing

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“SkinTraction®” Operator variable

Tube ends must be evenly loaded against skin for uniform intradermal deposition



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“SkinTraction®” Video



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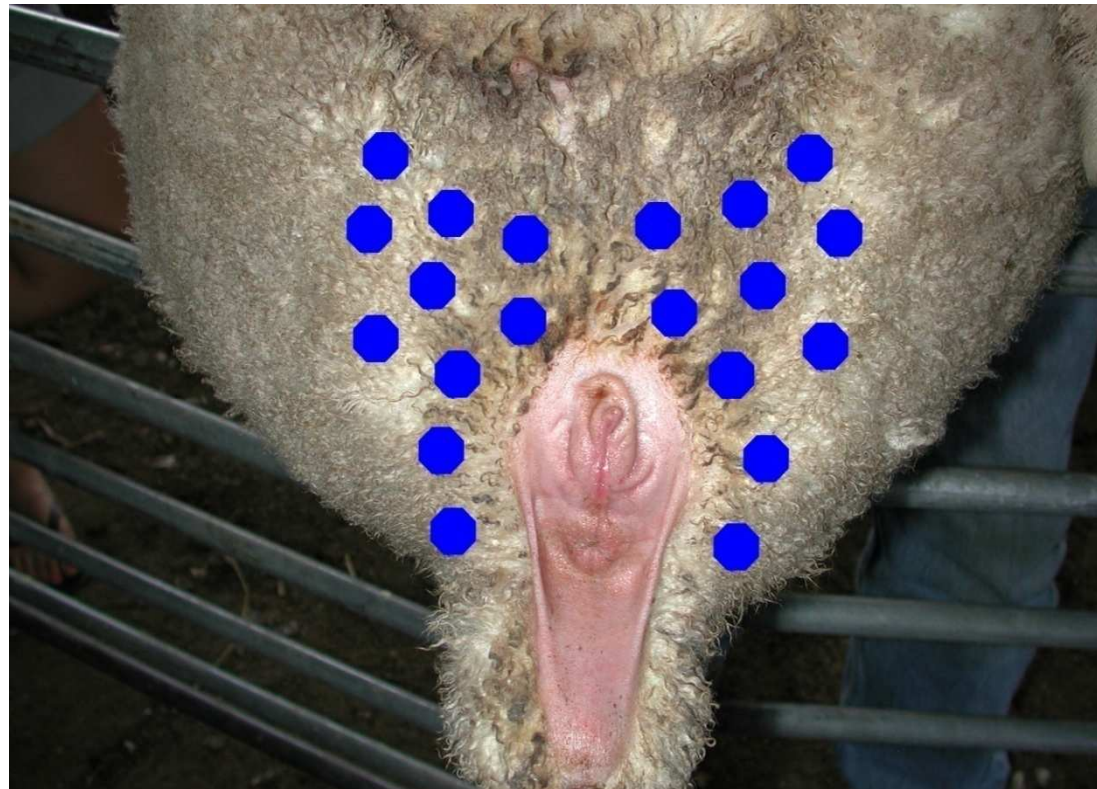


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“SkinTraction®” Pulse Applicator

One of the patterns of application tested



“SkinTraction®” Field Trials

- AWI signed contract with Cobbett Technologies to fast track the R&D Stage 1 early 2008/09 and Stage 2 in 2009/10.
 - 9 Field Trial sites commenced 2008/9 Stage 1
 - CSIRO Welfare trial conducted late 2008 Stage 1
 - 9 Field Trial sites commenced 2009/10 Stage 2
 - Confirmation & Variables 2010 / 2011 Stage 3
- Encouraging responses from breeders at trial sites where optimal settings used

“SkinTraction®” A work in progress

Treatment: 70psi, 2.5ml, ID 0.38mm, shroud 2, tips 9, pattern 2

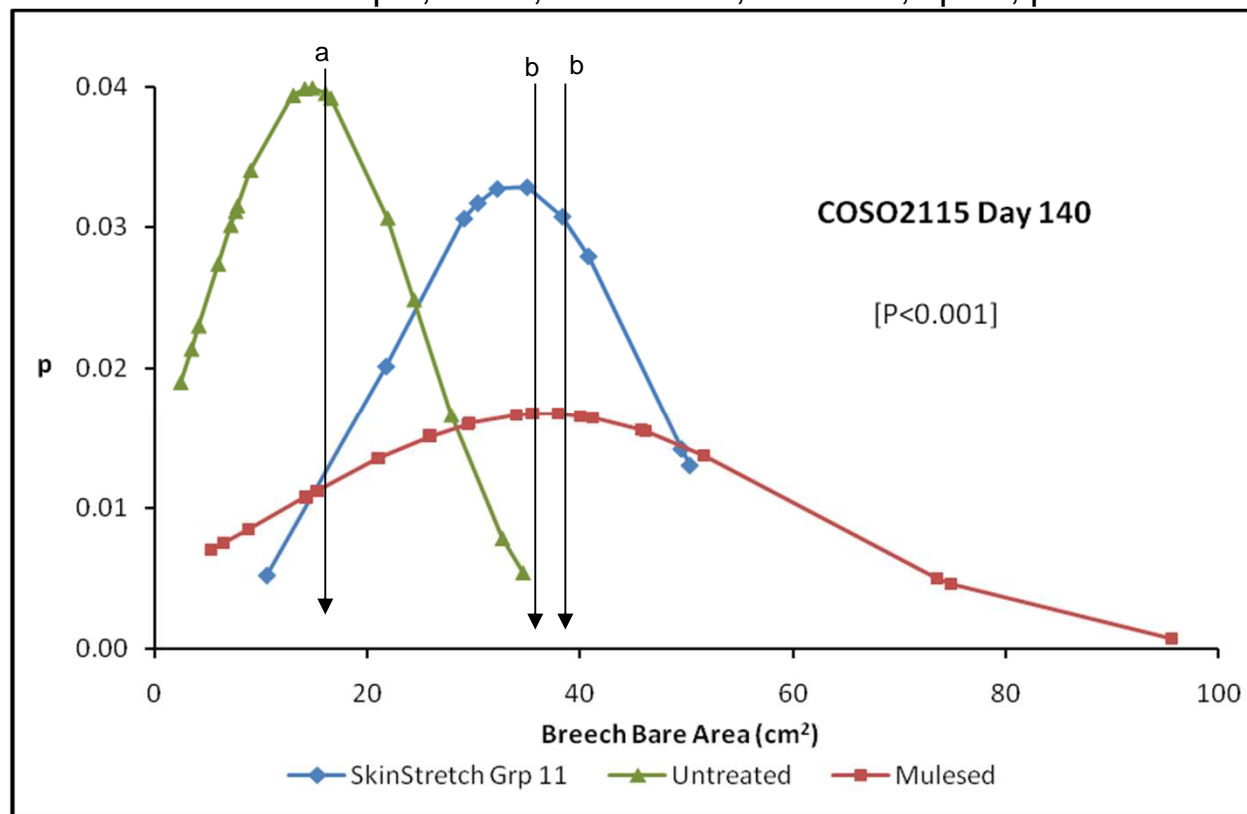


Figure 22 - COSO2115 Grp 11 - Day 140 Breech Bare Area

“SkinTraction®” A work in progress

Treatment: 50psi, ID 0.32mm, shroud 2, 9 tips, pattern 2

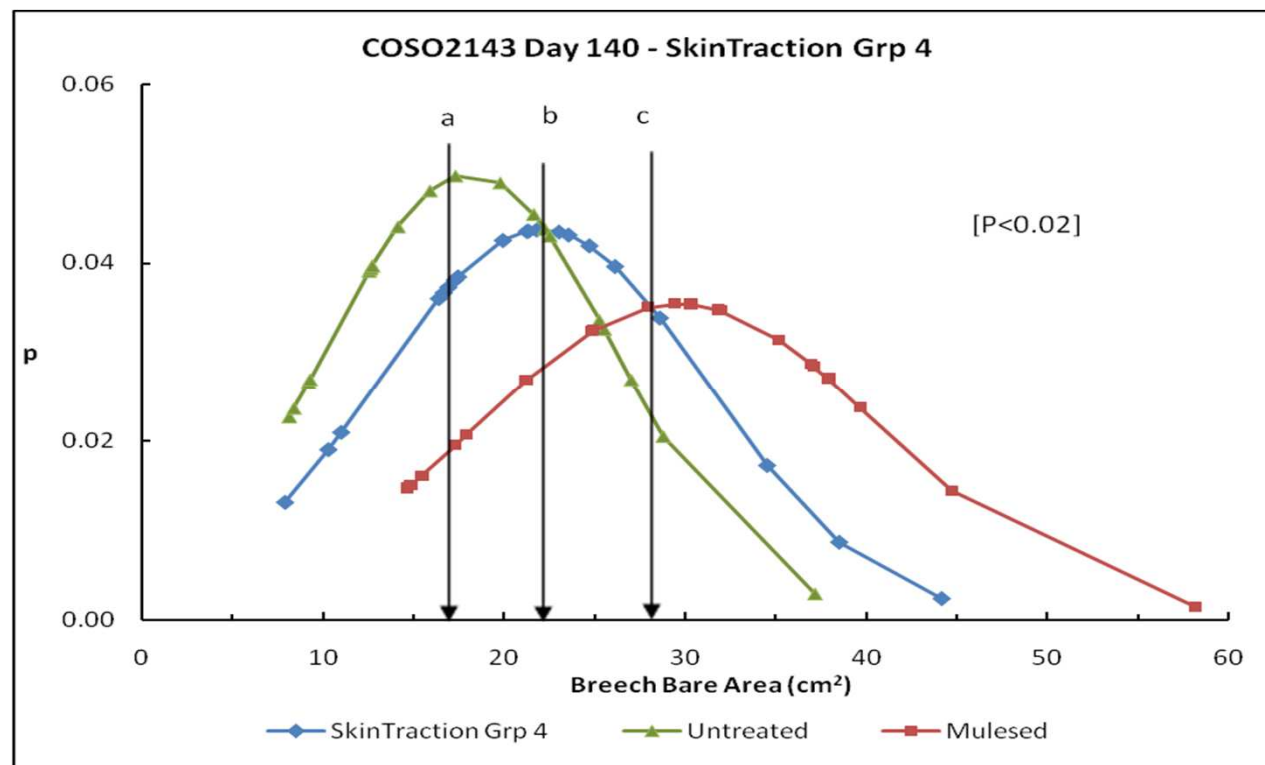


Figure 32 - COSO2143 Grp 4 - Day 140 Bare Area

“SkinTraction®” A work in progress

Treatment: 45psi, 2.5ml, ID 0.32mm, Shroud 2, 9 tip, pattern 2

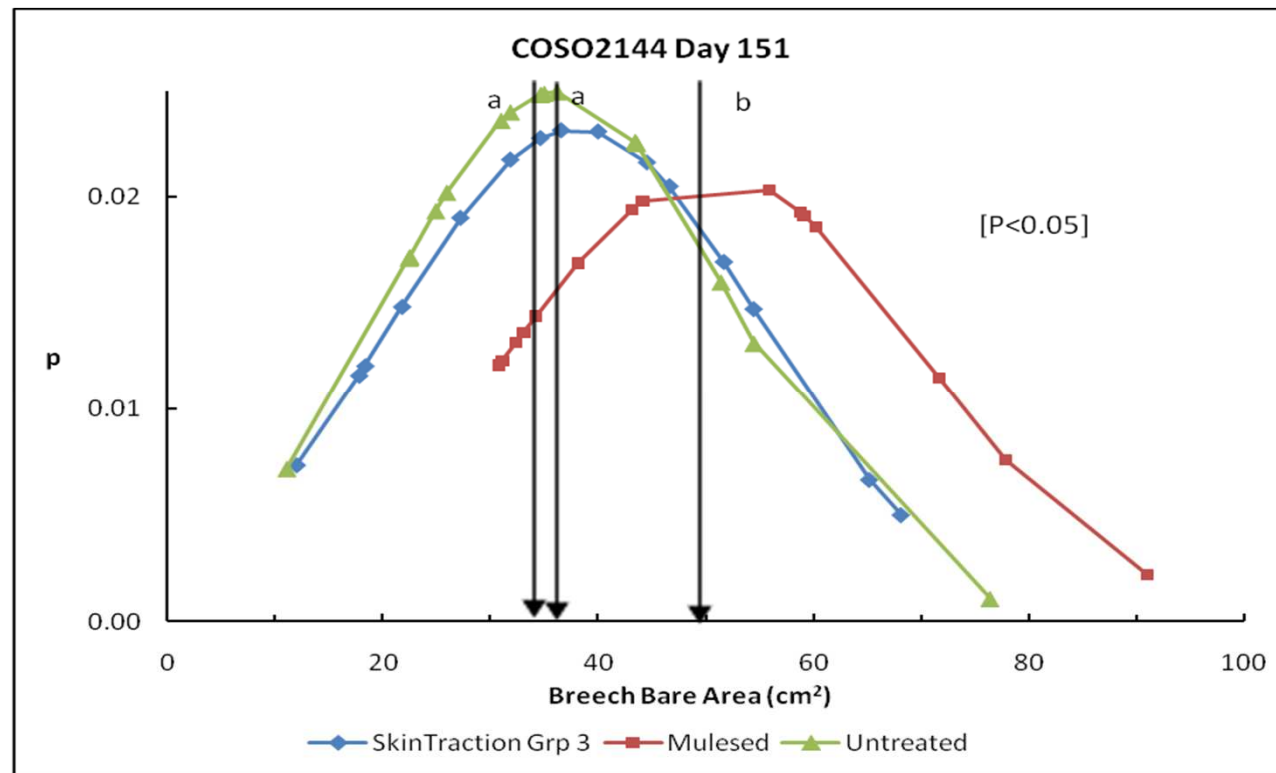


Figure 36 - COSO2144 Grp 3 Day 151 - Breech Bare Area

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“SkinTraction®” Field Trials

Trial 6 2008 Day 240



Example of a
good tail



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Cobbett Technologies Pty Ltd



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“SkinTraction®” Animal Welfare

- CSIRO (Dr Ian Colditz) paper has been published in AVJ 2009
 - Animal behaviour of treated lambs similar to untreated lambs
 - Physiological assessments (temperature, blood markers etc) midway between mulesed and untreated. Some markers are elevated for several days as healing process occurs
 - Encouraging results – may need follow up assessment based on improved applicator settings.
 - RSPCA have inspected trials during treatment on several occasions – favourable responses to date

“SkinTraction[®]” Getting it right!

- Skintraction is still at the R & D trials stage.
 - The following targets remain:
 - Trial results (bare area measurement) from 2009, 2010 early 2011 trials
 - APVMA **registration**
 - **Improve speed** of treatment by 10% to match current practices
 - **Improve tail** wool cover results
 - **Further testing**
 - Improve consistency of results between trials, getting the pressure right for the type and age of weaner
 - **Integrity System** for unmulesed wool
 - **Peer review** of trials data with a view to publication in appropriate journals.
 - Lifetime Efficacy against flystrike – the true test

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“SkinTraction®” A work in progress

Cobbett Technologies

Funding from AWI

Property owners for field trials

Livestock Contractors Association

Pulse NeedleFree Systems

Ruth Davis Consulting, Agrisearch, VHR, CSIRO

Gordon Godson, Dr John Ashley, Pat Cooper

Brunton Engineering, Edplas

Dr Terry and Jim Rothwell