

Thermoskin Trial
Monaro, NSW
July to October 2009

Facilitator

Anthony Shepherd

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Ewe and Lamb Dalgety, Monaro

5th August 2009

Thermoskin Trial Report

5th January 2010

Problem Identified

Sheep deaths post shearing presents a real problem for graziers, with hypothermia been the major cause of death, especially in the colder months. Sheep most at risk are pregnant ewes, weaners and those sheep in low body score condition.

Many sheep are shorn in the colder months due to management with many growers lambing “off the board”. This then enables that lamb to carry a full 11 months wool for its first shearing and minimising discounts for low tensile strength in the wool.

Purpose of Trial

To determine if the Commercial product Thermoskin, a lanolin based product that is applied to freshly shorn sheep, has any positive affects over traditional management systems post wool removal, in reducing the risk of hypothermia, especially in the colder months. We will also look at any economic benefits’.

The trial will look at weight gain/losses post wool removal

Trial Protocols

All sheep randomly selected.

All treated and control sheep run as 1 mob under same nutritional, management and environmental conditions

Growers present and participated in all weighing’s and treatment.

No control sheep were coated

Option of measuring and identifying each sheep individually or measuring as a whole mob.

Minimum of 2 weighing’s, maximum of three, approximately 2 weeks apart per weighing.

Due to any severe cold weather all sheep will be shedded due to been all run as one mob.

The facilitator was not paid by the Thermoskin Company or any growers to run this trial. All costs were covered by the facilitator with a funding application to MLA rejected.

Facilitator

Anthony Shepherd

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Participants

Colin Murdoch, “Inverlochie”, Ando, NSW, 2631

P: 02 6458662

Sheep Measured: Merino ewe hoggets, 186 control and 324 treated

Initial treatment and weighing date: 23.9.09

Secondary weighing’s: 30.9.09 and 15.10.09

Bryce Garnock, "South Buknlong" Bomballa, NSW, 2632

P: 02 64583050

Sheep Measured: Merino ewe hoggets, 221 control and 232 treated.

Initial treatment and weighing date: 3.7.09

Secondary weighing's: 21.7.09 and 4.8.09

Henry Bridgewater, "Sherwood" Nimitable, NSW, 2631

P: 02 64536233

Sheep measured: Mixed age pregnant ewes, 86 control and 168 treated

Merino ewe hoggets, 50 control and 141 treated

Merino ewes initial treatment and weighing date: 3.7.09

Secondary weighing's: 22.7.09 and 5.8.09

Merino ewe hoggets initial treatment and weighing date: 15.9.09

Secondary weighing: 30.9.09

Bob Walters, "Middle Merino Stud", Dalgety, NSW, 2628

P: 02 64566744

Sheep measured: Mixed age pregnant ewes, 64 control and 129 treated

Initial treatment and weighing date: 22.7.09

Secondary weighing: 6.8.09

Charlie Hood, Rosemeath Rd, Bombala, NSW, 2632

P: 02 64584388

Sheep measured: Mixed age pregnant ewes, 202 control and 239 treated

Initial treatment and weighing date: 14.8.09

Secondary weighing: 28.8.09

Running of the Trial

A total of 15 weighing's were taken on 6 properties, with the first weighing taking place at Bryce Garnock's on the 3rd July 2009 and the last weighing taking place at Colin Murdoch's on the 15th October 2009.

All sheep on each property were run in the same mob under the same conditions for the period of the trial(s).

A total of 2043 sheep were in the trial. In the ewes there were 536 treated and 353 controls over 3 properties. In the hoggets there were 697 treated and 457 controls over 3 properties.

All properties in the trial are located in the Monaro district of NSW.

When the treatment and weighing's were taken the entire region was in severe drought, but also was experiencing extremely mild conditions.

There were more growers that were going to take part in the trial but did not due to management decisions due to the seasonal conditions. Such decisions were to sell their sheep, postponing shearing or worried about the condition of the sheep and sending on aggistment out of the district.

Growers were meant to keep a diary while the trial was taking place on their property. Unfortunately only Murray and Bryce Garnock completed the diary.

The diary was a daily recording of temperature, rainfall, paddock and nutrition.

The Garnock's diary would have been a good representation of what all participants in the trial area experienced.

From the 3rd of July to the 4th August 2009 a total of 2.7mm fell over 5 days, with the biggest fall been 1 mm on day 15 of the trial.

The mean average rainfall in July for Bomballa for the last 125 years is 46.7mm

The temperature ranged from an average high of 10.6 degrees Celsius to an average minimum of 0.45 degrees Celsius.

The mean average temperature for July for Bomballa averaged a high of 11 degrees Celsius to an average minimum of minus 1.1 degrees Celsius for the last 86 years.

The highest daily temperature was recorded at 15 degrees Celsius on day 15. The lowest minimal temperature was recorded at minus 4 degrees Celsius on day 23.

No supplementary feeding was given through the trial with the hoggets been put in a pasture improved paddock. For the remainder of the trial the hoggets were run on native pasture.

Sheep had minimal shelter for the first 10 days and then went into some native shelter for up to day 32 of the trial.

Garnock's Merino Ewe Hoggets (3 weighing's)

	Weight 1 (kg)	Weight 2 (kg) 18 days	gain/loss (kg) 1st to 2nd	Weight 3 (kg) 32 days	gain/loss (kg) 2nd to 3rd	Total gain/loss (kg)
Treated	24.14	27.39	3.25	27.59	0.20	3.45
Control	23.52	26.42	2.90	26.56	0.15	3.04
Difference	0.62	0.97	0.35	1.03	0.05	0.41



Murray and Bryce Garnock's, "South Bukalong", Bomballa. 4th August 2009
Some native shelter



Murray and Bryce Garnock's, "South Bukalong", Bomballa. 21st July 2009
Pasture improved paddocks minimal shelter to none.

Bridgewater Mixed Age Pregnant Ewes (3 weighing's)

	Weight 1 (kg)	Weight 2 (kg) 18 days	gain/loss (kg) 1st to 2nd	Weight 3 (kg) 32 days	gain/loss (kg) 2nd to 3rd	Total gain/loss (kg)
Treated	51.02	59.15	8.13	59.64	0.49	8.62
Control	51.44	57.77	6.33	57.88	0.11	6.44
Difference	-0.42	1.38	1.80	1.76	0.38	2.18



Henry Bridgewater's, "Sherwood" Nimitable. 22nd July 2009



Henry Bridgewater's, "Sherwood" Nimitable. 16th August 2009
Mild and dry conditions

Walters Mixed Age Pregnant Ewes (2 weighing's)

	Weight 1 (kg)	Weight 2 (kg) 15 days	gain/loss (kg) 1st to 2nd	Weight 3 (kg)	gain/loss (kg) 2nd to 3rd	Total gain/loss (kg)
Treated	49.40	55.50	6.10	0.00	0.00	6.10
Control	50.16	53.15	2.99	0.00	0.00	2.99
Difference	-0.76	2.35	3.11	0.00	0.00	3.11

Hood Mixed Age Pregnant Ewes (2 weighing's)

	Weight 1 (kg)	Weight 2 (kg) 14 days	gain/loss (kg) 1st to 2nd	Weight 3 (kg)	gain/loss (kg) 2nd to 3rd	Total gain/loss (kg)
Treated	36.03	39.21	3.18	0.00	0.00	3.18
Control	36.44	38.72	2.28	0.00	0.00	2.28
Difference	-0.41	0.49	0.90	0.00	0.00	0.90

Bridgewater Merino Ewe Hoggets (2 weighing's)

	Weight 1 (kg)	Weight 2 (kg) 15 Days	gain/loss (kg) 1st to 2nd	Weight 3 (kg)	gain/loss (kg) 2nd to 3rd	Total gain/loss (kg)
Treated	32.45	40.17	7.72	0.00	0.00	7.72
Control	34.10	40.40	6.30	0.00	0.00	6.30
Difference	-1.65	-0.23	1.42	0.00	0.00	1.42



Henry Bridgewater's, "Sherwood" Nimitable. 16th August 2009
Mild and dry conditions

Murdoch's Merino Ewe Hoggets (3 weighing's)

	Weight 1 (kg)	Weight 2 (kg) 7 days	gain/loss (kg) 1st to 2nd	Weight 3 (kg) 15 days	gain/loss (kg) 2nd to 3rd	Total gain/loss (kg)
Treated	31.26	33.25	1.99	34.58	1.33	3.32
Control	31.41	32.93	1.52	34.56	1.63	3.14
Difference	-0.15	0.32	0.47	0.02	-0.30	0.18



Col Murdoch's, "Inverlochie", Ando. 23rd September, 2009. Mild and dry conditions

Overall Ewe Summary Treated v. Control Weight Gain

Name	Weight Gain/loss (kg)
Walters (15 days)	3.11
Hood (15 days)	1.42
Bridgewater (32 days)	2.18
Average (21 days)	2.24

Overall Hogget Summary Treated v. Control Weight Gain

Name	Weight Gain/loss (kg)
Garnock (32 days)	0.41
Murdoch's (15 days)	0.18
Bridgewater (15 days)	1.42
Average (21 days)	0.67

Overall Summary Treated v. Control Weight Gain

Name	Weight Gain/loss (kg)
Walters Ewes	3.11
Hood Ewes	1.42
Bridgewater Ewes	2.18
Garnock Hoggets	0.41
Murdoch's Hoggets	0.18
Bridgewater Hoggets	1.42
Average (21 days)	1.45

Total Sheep in Trial

Name	Treated	Control	Total
Walters Ewes	129	65	194
Hood Ewes	239	202	441
Bridgewater Ewes	168	86	254
Garnock Hoggets	232	221	453
Murdoch's Hoggets	324	185	509
Bridgewater Hoggets	141	51	192
Total Sheep in Trial	1233	810	2043

Carcase Price Difference Treated v. Control - Merino Ewe

Name	Weight Gain/loss (kg)	*Avg Carcase c/kg	Price Diff per hd (\$)
Walters (15 days)	3.11	3.08	9.58
Hood (15 days)	1.42	3.08	4.37
Bridgewater (32 days)	2.18	3.08	6.71
Average	2.24	3.08	6.89

* Carcase value for merino ewes taken from week ending 15th Jan 2010 from an average value taken from Cowra, Goulburn, Forbes, Carcoar and Wagga. Based from a 18.1 - 24 kg carcase weight, 2 - 4 fat score

Carcase Price Difference Treated v. Control - Merino Hogget

Name	Weight Gain/loss (kg)	#Avg Carcase c/kg	Price Diff per hd (\$)
Garnock (32 days)	0.41	4.71	1.93
Murdoch's (15 days)	0.18	4.71	0.85
Bridgewater (15 days)	1.42	4.71	6.69
Average	0.67	4.71	3.16

Carcase value for merino Hoggets taken from week ending 15th Jan 2010 from an average taken from Cowra, Goulburn, Forbes, Carcoar and Wagga. Based from a 12.1 - 16 kg carcase weight, 2 - 4 fat score

Value Difference of Treated Sheep v. Control Sheep after Application Cost

Name	Price Diff per Hd (\$)	*Application Cost Per Hd (\$)	Net Return hd (\$)	Treated Mob Size (hd)	Net Return Per Mob (\$)
Garnock (32 days)	1.93	1.51	0.42	232	97.44
Murdoch's (15 days)	0.85	1.52	-0.67	324	-217.08
Bridgewater (15 days)	6.69	1.69	5.00	141	705.00
Walters (15 days)	9.58	1.82	7.76	129	1000.89
Hood (15 days)	4.37	1.49	2.88	239	689.18
Bridgewater (32 days)	6.71	1.63	5.08	168	854.18
Average	3.16	1.61	1.55	206	521.60

*Application cost varies due to how well the sheep run through the spray unit, therefore making the cost per hd more cost effective the better they run. Min 500 sheep to be treated a 20 Lt drum to max of 800hd to maintain efficacy of product.

Conclusion

All participants in the trial saw a weight gain in their treated sheep with the Thermoskin product over the control mobs.

The gain was minimal at Colin Murdoch's at 0.18kg for Merino hoggets after 15 days to the maximum weight gain at Bob Walters of 3.11kg for Merino pregnant ewes after 15 days.

To the initial application and weighing to the second weighing there was an average weight gain in the treated sheep over the control sheep of 1.34kg hd.

The weight gain was significantly reduced from the 2nd to the 3rd weighing's to an average of 0.24kg per hd. This is a reduction of 1.1kg weight gain from the first to the second weighing's. Colin Murdoch's hoggets lost the most at 0.30kg per hd.

There was more weight gain in the pregnant ewes averaging a 1.94kg hd (4%) weight gain after an average of 15 days over the untreated sheep. A significant result for a ewe in her last 4 to 6 weeks before lambing on extremely limited nutrition.

The weight gain in the treated hoggets over the controls after 15 days was 0.74kg hd (2%)

From Garnock's in which sheep were identified individually the control sheep had 11.4% or 20hd more with than less than 10% weight gain than the treated mob. There were 190hd in the control mob and 200hd in the treated mob.

From Bridgewater's in which also sheep were identified individually the control sheep had 10% or 4hd more with less than 10% weight gain than the treated mob. There were 50 hd in the control mob and 138 in the treated mob.

From the above two paragraphs there were significantly more sheep in the control mobs that had a weight gain of less than 10%, on average 10.7% more than in the treated. This may suggest also that the treated sheep were less susceptible to initial exposure.

It is also then conclusive from this trial that as time went on the control sheep caught up in weight to the treated sheep once they have gotten over that initial exposure period.

It seems that the Thermoskin application has more benefit to the sheep straight after wool removal when the sheep is at most risk to exposure and hypothermia with no long term benefits'.

It was commented on from all growers involved in the trial that the sheep weren't really tested due to quite mild winter conditions.

No mortalities were recorded in control or treated groups.

5 from the 6 growers saw a positive return monetary wise after the cost of the treatment over the control mobs. Colin Murdoch was the grower with a negative return of \$0.67 hd due to minimal weight gain of the treated sheep, which didn't make up for the cost of the Thermoskin application.

On average from the 6 trial mobs (including Colin Murdoch's) there was an average monetary return of the treated sheep over the control sheep of \$1.55hd or \$521.00 per trial mob averaging 206hd per mob.

The values were applied to the mobs as if they were to be sold on dates of weighing(s)

Carcase values were taken from an average of sheep sales ending the week of the 11th January 2010 for both merino ewes and merino hoggets. Therefore the values are constant for each group.

The facilitator wishes to thank all the participants for their in kind time to be part of the trial, in providing their sheep and labour, and paying for the cost of the Thermoskin application.

Sheepmatters is a fully independent sheep consultant business.



Monaro Tree

15th August 2009