



National
Landcare
Programme



MFMG
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Results Day
March 10 2020

Standing Crops Hand Out

Paul & Rodney Bartlett
2 Scenarios - Grazing barley crop
- **without** *bean supplementation*
- **with** *bean supplementation*

SAN JOLLY

Consultant – Livestock nutrition & management
Productive Nutrition Pty Ltd

Barley - grain production- establishme

Establishment Costs			5/03/2020
Seed	Cost (\$/kg)	Sowing Rate (kg/ha)	
Barley - Scope	\$0.35	40	
Vetch	\$1.25	0	
Seed coating - Systiva	\$216	0.06	800 ml/t
Fertiliser - incl freight	Cost (\$/tonne)	Application Rate (kg/ha)	Application Rate (t/ha)
DAP	\$645	80	0.08
Urea	\$550	40	0.04
Gypsum	\$38	0	0
Herbicide/insecticide	Cost (\$/L or /kg)	Application Rate (L/ha)	
LVE Agritone	\$8.75	0.45	
Roundup	\$6.92	1	
Hasten / Kwickin	\$1.96	0.97	
Trifluralin	\$7.74	1.5	
Goal	\$9.77	0.075	
Diuron (1st spray 1.3L/ha, 2nd spray 2.6L/ha)	\$9.67	1.95	
Imazamox (Raptor)	\$120.00	0.05	
Ally	\$70.00	0.005	
Fungicides - Opus	\$14.00	0.5	
Snail bait	\$1.05	10	
Trace elements - ZMC	\$6.00	2	
Trace elements - 2	\$3.76	3	
SOA	\$1.00	1.45	
Dimethoate	\$8.00	0.1	

Contract Operations	Rate (\$/ha)	No. of Times Operation Conducted
Cultivation	\$35.00	0
Scarify	\$22.00	0
Seeding	\$32.33	1
Spraying	\$3.98	2
Spreading	\$10.00	1
Harvesting	Cost (\$/ML)	Application Rate (ML/ha)
Crop insurance	\$7.11	1
Harvesting \$/ha	\$50.00	1
Freight	\$17.00	1
TOTAL		

<i>Input costs</i>	<i>Yield potential (t/ha)</i>	<i>Grain value: \$/t</i>
\$271.47	2	\$280.00

nt cost

Paul Bartlett	Total Cost (per ha)
	\$14.00
	\$0.00
0	\$0.00
No. of Applications	
1	\$51.60
1	\$22.00
1	\$0.00
No. of Applications	
0	\$0.00
0	\$0.00
1	\$1.90
1	\$11.60
0	\$0.00
2	\$37.71
1	\$6.00
0	\$0.00
0	\$0.00
0	\$0.00
0	\$0.00
0	\$0.00
0	\$0.00
1	\$1.45
1	\$0.80

	\$0.00
	\$0.00
	\$32.33
	\$7.96
	\$10.00
	\$7.11
	\$50.00
	\$17.00
	\$271.47

	<i>GM/Ha</i>
\$	560.00
\$	288.53

GRAZING barley- establishment

Pasture Establishment Costs (Year 1)			5/03/2020
Seed	Cost (\$/kg)	Sowing Rate (kg/ha)	
Barley - Scope	\$0.35	40	
Vetch	\$1.25	0	
Seed coating - Systiva	\$216.00	0.06	800 ml/t
Fertiliser - incl freight	Cost (\$/tonne)	Application Rate (kg/ha)	Application Rate (t/ha)
DAP	\$645.00	80	0.08
Urea	\$550.00	40	0.04
Gypsum	\$38.00	0	0
Herbicide/insecticide	Cost (\$/L or /kg)	Application Rate (L/ha)	
LVE Agritone	\$8.75	0.45	
Roundup	\$6.92	1	
Hasten / Kwickin	\$1.96	0.97	
Trifluralin	\$7.74	1.5	
Goal	\$9.77	0.075	
Diuron (1st spray 1.3L/ha, 2nd spray 2.6L/ha)	\$9.67	1.95	
Imazamox (Raptor)	\$420.00	0.05	
Ally	\$70.00	0.005	
Fungicides - Opus	\$14.00	0.5	
Snail bait	\$1.05	10	
Trace elements - ZMC	\$6.00	2	
Trace elements - 2	\$3.76	3	
SOA	\$1.00	1.45	
Dimethoate	\$8.00	0.1	
Contract Operations	Rate (\$/ha)	No. of Times Operation Conducted	
Cultivation	\$35.00	0	
Scarify	\$22.00	0	
Seeding	\$32.33	1	
Spraying	\$3.98	2	
Spreading	\$10.00	1	
Harvesting	Cost (\$/ML)	Application Rate (ML/ha)	
Crop insurance	\$7.11	0	
Harvesting \$/ha	\$50.00	0	
Freight	\$17.00	0	
TOTAL			

Annual Pasture Maintenance Costs (Year 2 onwards)			
Fertiliser incl freight	Cost (\$/tonne)	Application Rate (kg/ha)	Application Rate (t/ha)
DAP	\$645.00	80	0.08
Urea	\$550.00	0	0

Herbicide/insecticide	Cost (\$/L)	Application Rate (L/ha)
Contract Operations	Rate (\$/ha)	No. of Times Operation Conducted
Spreading	\$10.00	0
Irrigation Costs	Cost (\$/ML)	Application Rate (ML/ha)
TOTAL annual maintenance costs		

TOTAL pasture costs (establishment + maintenance)

TOTAL pasture cost per annum

Pasture Life Expectancy 1 years

Dry Matter Production	
Year 1	5500 kg DM/ha
Year 2 +	kg DM/ha
TOTAL pasture DM prodn.	4500 kg DM/ha
Residual	1000 kg DM/ha
Cost	\$ 0.047 kg DM
	\$ 47.19 tonne DM

cost

Paul Bartlett	Total Cost (per ha)
	\$ 14.00
	\$ -
	\$ -
No. of Applications	
1	\$ 51.60
1	\$ 22.00
1	\$ -
No. of Applications	
0	\$ -
0	\$ -
1	\$ 1.90
1	\$ 11.60
0	\$ -
2	\$ 37.71
1	\$ 21.00
0	\$ -
0	\$ -
0	\$ -
0	\$ -
0	\$ -
1	\$ 1.45
1	\$ 0.80
	\$ -
	\$ -
	\$ 32.33
	\$ 7.96
	\$ 10.00
	\$ -
	\$ -
	\$ -
	\$ 212.36

	Total Cost (per ha)
No. of Applications	
0	\$ -
0	\$ -

	\$	-
No. of Applications		
	\$	-
	\$	-
	\$	-
	\$	-
	\$	-
	\$	-
	\$	-
	\$	-
	\$	-
	\$	212.36
	\$	212.36

Sherwood - NO BEANS

33.5 -> 37kg LW

Grain

Oats

Lupins

Barley

Beans

Lentils

Roughage

Barley hay

Medic/vetch hay

Lucerne hay

Dry standing pasture

Standing wheat crop

Standing barley crop

Additives

PN Dry feed energiser - Compass Feeds

Lime and salt 80/20

TOTAL: kgs per head per day

TOTAL Cost: per head per day

TOTAL Cost: per tonne

Intake - As fed (kg)
Intake - Dry matter (kg)
Crude Protein (gms per day)
Energy (ME, MJ/day)
NDF(minimum) %
Calcium (gms/day)
Phosphorus (gms/ day)
Calcium:Phosphorus Ratio

Merino wether lambs

5/03/20

Standing barley crop

<u>As fed</u>	<u>% of Ration</u>
(Kgs/head/day)	
0.50	37.5%
0.80	59.9%
0.02	1.5%
0.02	1.1%
1.34	100%
\$0.07	
\$50.59	
<u>Approx. analysis</u>	<u>Target 40kg lamb</u>

1.3	
1.2	1.5
117	180
13.5	15.0
36%	32%
11.70	7.60
3.82	3.80
3.1 :1	2.00

Sherwood - NO BEANS

GM lamb budget

Ration consisting of....	Lamb type...		5/03/2020	
Purchase price	Average live weight (kgs):	33.5	@	\$7.28
Transport to property				
Drench: Cydectin				
Vaccination + B12				
Crutching & shearing				
Enter total days fed, cost per tonne	Total days:	58	\$ / t	\$50.59
& kgs fed per day	kgs per day:	1.18	\$ / head	\$3.47
Fuel, oil, repairs				
Water				
Transport to market				
Commission on sale (%)				5.60%
Levies				2.10%
Labour & administration				
Lease				
Total costs per head				
Feed cost % : costs per head excl purchase & transport:				
Returns per head	Average live weight (kgs):	37.0		
Dressing percentage		44%		
	Av. carcase weight (kgs):	16.3	@	\$7.20
Skin price		\$3.00		
Interest on lambs	6%	0.0%		0.1589041
Wool clip	Wool price (\$/kg greasy)	\$8.00	Wool clip/hd (kg)	1.2
Total returns per head				
Profit / loss per head				

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Costs per head	Costs per head excluding purchase & transport
\$100.00	
\$0.31	\$0.31
\$0.36	\$0.36
\$6.00	\$6.00
\$3.47	\$3.47
\$0.30	\$0.30
\$0.20	\$0.20
\$2.50	\$2.50
\$2.00	\$2.00
\$2.46	\$2.46
	\$0.00
	\$0.00
\$117.60	\$17.60
	19.71%
\$117.22	
\$3.00	
\$0.00	
\$9.60	
\$129.82	
\$12.21	

How long to feed?

Enter expected daily rate of gain:
60.34 grams per day

Enter target weight:
37 kgs

Number of days to feed =

58 days

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m contained therein, that the user may be unfamiliar with.

Sensitivity tables

1. Effect of lamb purchase price and carcass price on gross margin per lamb

		Lamb purchase price or starting value (\$/hd)					
		\$100.00	\$110.00	\$120.00	\$130.00	\$140.00	\$150.00
Carcass price (\$/kg cwt)	\$7.00	\$9.03	-\$0.97	-\$10.97	-\$20.97	-\$30.97	-\$40.97
	\$7.50	\$17.00	\$7.00	-\$3.00	-\$13.00	-\$23.00	-\$33.00
	\$8.00	\$24.96	\$14.96	\$4.96	-\$5.04	-\$15.04	-\$25.04
	\$8.50	\$32.93	\$22.93	\$12.93	\$2.93	-\$7.07	-\$17.07
	\$9.00	\$40.90	\$30.90	\$20.90	\$10.90	\$0.90	-\$9.10

2. Effect of lamb growth rate on gross margin per lamb

Lamb growth rate (g/hd/day)	50	\$11.50
	75	\$12.87
	150	\$14.31
	175	\$14.49
	200	\$14.61

3. Effect of skin price on gross margin per lamb

Skin price (\$/hd)	\$0.00	\$9.21
	\$3.00	\$12.21
	\$5.00	\$14.21
	\$7.00	\$16.21
	\$10.00	\$19.21

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Paddock utilisation and gross margin per ha

Sherwood - NO BEANS

No of lambs	1000
= Stocking rate	25
Paddock size	40.0
Lambs per ha - preferred stocking rate (<i>soil type</i>)	25
How many lambs can I graze at preferred stocking rate (<i>ha*sr</i>) ?	1000
Gross margin per hectare	
Weaning value / COP	\$100.00
Total costs	\$117.60
Carcase value /kg	\$7.20
Skin value	\$3.00
GM/lamb	\$12.21
GM/ha - 25 lambs per ha (proposed mob)	\$305.36
GM/ha - 25 lambs per ha (potential stocking rate)	\$305.36

lambs	Total feed demand (t DM)	75 t
<i>lambs/ha</i>	DMI (kg/d)	1.3 kg/d
	Weaning weight (kg)	33.5 kgs
	Finished weight (kg)	37.0 kgs
	Growth rate (g/d)	60.34 g/d
	Days on feed	58 days
ha	Total tonnes DM available	140 t
	Estimated t DM available/ha	3.5 t
<i>lambs/ha</i>		
<i>lambs</i>	Total feed demand (t DM)	75 t
	Grazing barley crop	
	Standing crop \$/ha	\$212.36
	COP per t DM	\$47.19
	Ration cost per head per day	\$0.07
	Ration cost per head per tonne	\$50.59

Sherwood - WITH BEANS

33.5 -> 37kg LW

Grain

Oats

Lupins

Barley

Beans

Lentils

Roughage

Barley hay

Medic/vetch hay

Lucerne hay

Dry standing pasture

Standing wheat crop

Standing barley crop

Additives

PN Dry feed energiser - Compass Feeds

Lime and salt 80/20

TOTAL: kgs per head per day

TOTAL Cost: per head per day

TOTAL Cost: per tonne

Intake - As fed (kg)
Intake - Dry matter (kg)
Crude Protein (gms per day)
Energy (ME, MJ/day)
NDF(minimum) %
Calcium (gms/day)
Phosphorus (gms/ day)
Calcium:Phosphorus Ratio

Merino wether lambs

5/03/20

Standing barley crop

<u>As fed</u> (Kgs/head/day)	<u>% of Ration</u>
0.50	27.2%
0.30	16.3%
1.00	54.5%
0.02	1.1%
0.02	0.8%
1.84	100%
\$0.25	
\$133.77	
<u>Approx. analysis</u>	<u>Target 40kg lamb</u>

1.8	
1.6	1.5
203	180
19.0	15.0
34%	32%
12.31	7.60
5.59	3.80
2.2 : 1	2 : 1

Sherwood - WITH BEANS GM lamb budget

Ration consisting of....	Lamb type...		5/03/2020	
Purchase price	Average live weight (kgs):	33.5	@	\$7.28
Transport to property				
Drench: Cydectin				
Vaccination + B12				
Crutching & shearing				
Enter total days fed, cost per tonne	Total days:	77	\$ / t	\$133.77
& kgs fed per day	kgs per day:	1.63	\$ / head	\$16.77
Fuel, oil, repairs				
Water				
Transport to market				
Commission on sale (%)				5.60%
Levies				2.10%
Labour & administration				
Lease				
Total costs per head				
Feed cost % : costs per head excl purchase & transport:				
Returns per head	Average live weight (kgs):	45.0		
Dressing percentage		44%		
	Av. carcase weight (kgs):	19.8	@	\$7.20
Skin price		\$3.00		
Interest on lambs	6%	0.0%		0.2109589
Wool clip	Wool price (\$/kg greasy)	\$8.00	Wool clip/hd (kg)	1.2
Total returns per head				
Profit / loss per head				

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Costs per head	Costs per head excluding purchase & transport
\$100.00	
\$0.31	\$0.31
\$0.36	\$0.36
\$6.00	\$6.00
\$16.77	\$16.77
\$0.30	\$0.30
\$0.20	\$0.20
\$2.50	\$2.50
\$2.00	\$2.00
\$2.99	\$2.99
	\$0.00
	\$0.00
\$131.43	\$31.43
	53.34%
\$142.56	
\$3.00	
\$0.00	
\$9.60	
\$155.16	
\$23.73	

How long to feed?
Enter expected daily rate of gain: 150 grams per day
Enter target weight: 45 kgs
Number of days to feed = 77 days

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Sensitivity tables

1. Effect of lamb purchase price and carcass price on gross margin per lamb

		Lamb purchase price or starting value (\$/hd)					
		\$100.00	\$110.00	\$120.00	\$130.00	\$140.00	\$150.00
Carcass price (\$/kg cwt)	\$7.00	\$19.85	\$9.85	-\$0.15	-\$10.15	-\$20.15	-\$30.15
	\$7.50	\$29.55	\$19.55	\$9.55	-\$0.45	-\$10.45	-\$20.45
	\$8.00	\$39.24	\$29.24	\$19.24	\$9.24	-\$0.76	-\$10.76
	\$8.50	\$48.93	\$38.93	\$28.93	\$18.93	\$8.93	-\$1.07
	\$9.00	\$58.62	\$48.62	\$38.62	\$28.62	\$18.62	\$8.62

2. Effect of lamb growth rate on gross margin per lamb

Lamb growth rate (g/hd/day)	50	-\$9.58
	75	\$7.18
	150	\$23.73
	175	\$26.13
	200	\$27.87

3. Effect of skin price on gross margin per lamb

Skin price (\$/hd)	\$0.00	\$20.73
	\$3.00	\$23.73
	\$5.00	\$25.73
	\$7.00	\$27.73
	\$10.00	\$30.73

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Paddock utilisation and gross margin per ha

Sherwood - WITH BEANS

No of lambs	1000
= Stocking rate	25
Paddock size	40.0
Lambs per ha - preferred stocking rate (<i>soil type</i>)	25
How many lambs can I graze at preferred stocking rate (<i>ha*sr</i>) ?	1000
Gross margin per hectare	
Weaning value / COP	\$100.00
Total costs	\$131.43
Carcase value /kg	\$7.20
Skin value	\$3.00
GM/lamb	\$23.73
GM/ha - 25 lambs per ha (proposed mob)	\$593.26
GM/ha - 25 lambs per ha (potential stocking rate)	\$593.26

lambs	Total feed demand (t DM)	116 t
<i>lambs/ha</i>	DMI (kg/d)	1.5 kg/d
	Weaning weight (kg)	33.5 kgs
	Finished weight (kg)	45.0 kgs
	Growth rate (g/d)	150 g/d
	Days on feed	77 days
ha	Total tonnes DM available	200 t
	Estimated t DM available/ha	5 t
<i>lambs/ha</i>		
<i>lambs</i>	Total feed demand (t DM)	75 t
	Grazing barley crop	
	Standing crop \$/ha	\$212.36
	COP per t DM	\$35.39
	Ration cost per head per day	\$0.25
	Ration cost per head per tonne	\$133.77