



# Spray Irrigated Lucerne: Maintenance Central Zone

## Winter 2009

### 1. GROSS MARGIN BUDGET:

#### INCOME:

5 cuts	per season	@ 2.5 t	per cut
10.00 tonnes/ha @		\$220.00	/tonne (on farm)
2.50 tonnes/ha @		\$165.00	/tonne (on farm)

#### A. TOTAL INCOME \$/ha:

#### VARIABLE COSTS:

See opposite page for detail

Depreciation of establishment cost.....	\$103.27
Fertiliser.....	\$156.15
Herbicide.....	\$56.07
Insecticide.....	\$4.28
Irrigation.....	\$521.97
Mow, rake & bale.....	\$191.14
Cart and stack 100% of hay.....	\$200.00

#### B. TOTAL VARIABLE COSTS \$/ha:

#### C. GROSS MARGIN (A-B) \$/ha:

#### D. GROSS MARGIN /ML (C÷ML WATER APPLIED)\*

Standard Budget \$/Ha	Your Budget \$/Ha
\$2,200.00	
\$412.50	
<b>\$2,612.50</b>	
\$103.27	
\$156.15	
\$56.07	
\$4.28	
\$521.97	
\$191.14	
\$200.00	
<b>\$1,232.89</b>	
<b>\$1,379.61</b>	
<b>\$172.45</b>	

\* Note method of calculation of GM/ML different to other crops. See agronomic notes on irrigation for explanation.

### 2. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER HECTARE:

YIELD CUTS	tonnes/ha	ON FARM PRICE (\$/tonne) - Prime 80%, Medium 20%					Prime Medium Gross Margin (\$/ha)
		\$180	\$200	<b>\$220</b>	\$240	\$260	
		\$125	\$145	<b>\$165</b>	\$185	\$205	
2.00	5.00	-\$153	-\$53	\$47	\$147	\$247	
3.00	7.50	\$191	\$341	\$491	\$641	\$791	
4.00	10.00	\$535	\$735	\$935	\$1,135	\$1,335	
<b>5.00</b>	<b>12.50</b>	\$880	\$1,130	<b>\$1,380</b>	\$1,630	\$1,880	
6.00	15.00	\$1,224	\$1,524	\$1,824	\$2,124	\$2,424	
7.00	17.50	\$1,568	\$1,918	\$2,268	\$2,618	\$2,968	
8.00	20.00	\$1,912	\$2,312	\$2,712	\$3,112	\$3,512	

### 3. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER ML:

YIELD CUTS	tonnes/ha	ON FARM PRICE (\$/tonne) - Prime 80%, Medium 20%					Prime Medium Gross Margin (\$/ML)
		\$180	\$200	<b>\$220</b>	\$240	\$260	
		\$125	\$145	<b>\$165</b>	\$185	\$205	
2.00	5.00	-\$19	-\$7	\$6	\$18	\$31	
3.00	7.50	\$24	\$43	\$61	\$80	\$99	
4.00	10.00	\$67	\$92	\$117	\$142	\$167	
<b>5.00</b>	<b>12.50</b>	\$110	\$141	<b>\$172</b>	\$204	\$235	
6.00	15.00	\$153	\$190	\$228	\$265	\$303	
7.00	17.50	\$196	\$240	\$284	\$327	\$371	
8.00	20.00	\$239	\$289	\$339	\$389	\$439	

#### PRODUCT TRADE NAMES

The product trade names in this publication are supplied on the understanding that no preference between equivalent products is intended and that the inclusion of a product does not imply endorsement by NSW Department of Primary Industries over any other equivalent product from another manufacturer.

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### CALENDAR OF OPERATIONS:

Operation	Month	Machinery			Inputs			Total Cost \$/ha
		hrs /ha	Cost \$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	
Broadleaf weed control eg: Diuron 900g/kg	Jun/Jul	0.10	29.92	<b>\$2.88</b>	1.90kg	\$14.12/kg	<b>\$26.82</b>	<b>\$29.70</b>
Weed control eg: Paraquat+Diquat (Sprayseed®)	Jun/Jul	with above			2.00 L	\$13.19/L	<b>\$26.37</b>	<b>\$26.37</b>
Phosphorus fertiliser eg: Single Super	Aug	0.42	23.58	<b>\$9.90</b>	250 kg	\$0.59/kg	<b>\$146.25</b>	<b>\$156.15</b>
Aphid control eg: Dimethoate (Rogor®)	Aug	0.10	29.92	<b>\$2.88</b>	0.15 L	\$9.33/L	<b>\$1.40</b>	<b>\$4.28</b>
Irrigate	Oct				1.00 ML	\$65.25/ML	<b>\$65.25</b>	<b>\$65.25</b>
Mow	Nov	0.42	\$31.08	<b>\$12.95</b>				<b>\$12.95</b>
Rake	Nov	0.42	\$24.08	<b>\$10.03</b>				<b>\$10.03</b>
Bale	Nov	0.42	\$36.58	<b>\$15.24</b>				<b>\$15.24</b>
Irrigate	Dec				1.00 ML	\$65.25/ML	<b>\$65.25</b>	<b>\$65.25</b>
Mow	Dec	0.42	\$31.08	<b>\$12.95</b>				<b>\$12.95</b>
Rake	Dec	0.42	\$24.08	<b>\$10.03</b>				<b>\$10.03</b>
Bale	Dec	0.42	\$36.58	<b>\$15.24</b>				<b>\$15.24</b>
Irrigate	Jan				1.00 ML	\$65.25/ML	<b>\$65.25</b>	<b>\$65.25</b>
Irrigate	Jan				1.00 ML	\$65.25/ML	<b>\$65.25</b>	<b>\$65.25</b>
Mow	Jan	0.42	\$31.08	<b>\$12.95</b>				<b>\$12.95</b>
Rake	Jan	0.42	\$24.08	<b>\$10.03</b>				<b>\$10.03</b>
Bale	Jan	0.42	\$36.58	<b>\$15.24</b>				<b>\$15.24</b>
Irrigate	Feb/Mar				1.00 ML	\$65.25/ML	<b>\$65.25</b>	<b>\$65.25</b>
Irrigate	Feb/Mar				1.00 ML	\$65.25/ML	<b>\$65.25</b>	<b>\$65.25</b>
Mow	Feb/Mar	0.42	\$31.08	<b>\$12.95</b>				<b>\$12.95</b>
Rake	Feb/Mar	0.42	\$24.08	<b>\$10.03</b>				<b>\$10.03</b>
Bale	Feb/Mar	0.42	\$36.58	<b>\$15.24</b>				<b>\$15.24</b>
Irrigate	Apr				1.00 ML	\$65.25/ML	<b>\$65.25</b>	<b>\$65.25</b>
Irrigate	Apr				1.00 ML	\$65.25/ML	<b>\$65.25</b>	<b>\$65.25</b>
Mow	Apr	0.42	\$31.08	<b>\$12.95</b>				<b>\$12.95</b>
Rake	Apr	0.42	\$24.08	<b>\$10.03</b>				<b>\$10.03</b>
Bale	Apr	0.42	\$36.58	<b>\$15.24</b>				<b>\$15.24</b>
Cart and stack 100% of production	contract		\$0.40 /bale	<b>\$200.00</b>	(=500 bales)			<b>\$200.00</b>

\* Irrigation water price is an average price. Use the variable cost of irrigation water applicable to your situation.

\*\*\* Input and crop prices are correct at the time of writing (March 2009). Market uncertainty makes estimation of future pricing impractical.

### NOTES:

- Bale size:** - Bales are assumed to be 25 kg small square bales. 12.5t/25kg = 500bales
- Insect control:** - Earthmite control at establishment is essential  
- Aphid control in early spring is essential
- Weed control:** - Paraquate + Diquat and Diuron applied in June to early August to established stand to clean up weeds. Paraquat and diquat should be the last herbicide added to the spray tank.  
- Rotate herbicide groups and use other non-chemical methods to avoid herbicide resistance developing.
- Fertiliser:** - Alternative fertilisers are available, and need to supply equivalent rates of phosphorus and Sulfur.
- Spray irrigation:** - Refers to a **travelling Irrigator** (high pressure system).  
- This budget is applicable for the Central Zone east, a higher water requirement may be required for the central zone west than the figures used in this budget.  
- The application efficiency of the travelling irrigator is assumed to be 70%.  
- The method used to calculate gross margin per ML is gross margin per hectare less the gross margin from an alternative dryland enterprise divided by the ML of irrigation water applied. However, irrigated Lucerne does not have clear alternative in the Central West/west because soils and climate dictate land use. Therefore, the method used here is gross margin per hectare divided by the ML of irrigation water applied. Producers who are attempting to decide on the best use of their water it is recommended they decide on the dryland alternative and recalculate the gross margin per ML as done for other budgets.
- Machinery:** - A tractor with 57 kW (77 HP) pto power and 66kW (90 HP) engine power is assumed.  
- Machinery costs refer only to variable costs: fuel, oil, filters, tyres, batteries & repairs.  
- Contract-harvesting does not include the cost of fuel.
- Labour:** - The labour required for machinery operations is 3.89 hrs/ha  
- Using a labour cost of \$14/hr, an additional \$120.1 can be deducted from the budget
- Important notes:** - These gross margins are only a guide. They do not include overhead costs.  
- **Use your own figures and price assumptions to estimate your own gross margin.**  
- Use of a particular brand name does NOT imply recommendation of that brand by NSW Department of Primary Industries.